How to Use This Book

WHEN YOU GET THIS BOOK

Read the list of **CONTENTS** at the beginning This tells what each chapter is about and gives the page numbers for the different subjects discussed

TO LOOK UP AN ILLNESS, OR OTHER HEALTH SUBJECT·

1 Look in the **YELLOW PAGES** at the end of the book This is an **INDEX** that lists, in the order of the alphabet, all the subjects in this book If you cannot find what you want, look for it under another name Or

2 Check the list of **CONTENTS.** When you find what you want, turn to the pages shown

IF YOU DO NOT UNDERSTAND THE MEANING OF SOME OF THE WORDS IN THIS BOOK

Look for the word in the **VOCABULARY** right after the green pages in the back of the book Words explained in the Vocabulary are written in *italics* the first time they are used in a chapter

BEFORE USING ANY MEDICINE.

Always look at the **GREEN PAGES** for information on uses, dosage, risks, and precautions A **LIST OF MEDICINES** and an **INDEX OF MEDICINES** can be found near the beginning of the **GREEN PAGES.**

TO BE READY FOR EMERGENCIES·

1 Keep a Medicine Kit like the ones recommended in Chapter 23 handy in the house or in the village

2 Study this book **before** it is needed, especially Chapter 10, FIRST AID, and Chapter 4, HOW TO CARE FOR A SICK PERSON

TO HELP KEEP YOUR FAMILY IN GOOD HEALTH.

Carefully study Chapter 11, on NUTRITION, and Chapter 12, on PREVENTION, and pay attention to the guidelines and precautions

TO IMPROVE HEALTH IN YOUR COMMUNITY

Organize a meeting of your neighbors, to study this book and discuss local health problems Or ask a teacher to give classes to the children and adults, using the book You will find many useful suggestions in the brown pages, **WORDS TO THE VILLAGE HEALTH WORKER,** in the first part of this book

Where There Is No Doctor

a village health care handbook

Where There Is No Doctor

a village health care handbook

by

David Werner

Adapted for India by
The Voluntary Health Association of India
under the supervision of
C. Sathyamala



with drawings by the author
G. Zachariah and Padam Khanna

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THIS IS AN EXPERIMENTAL ENGLISH EDITION. It can be improved with your help. If you are a village health worker, doctor, mother, or anyone with ideas or suggestions for ways this book could be changed to better meet the needs of your people, please write to the Voluntary Health Association of India, Thank you for your help.

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The Hindi edition is also available

In order to keep down the cost of this book, the present English edition has not been published by a commercial publisher This means we need help in its distribution **We are looking for ways to get this book to those it can serve best-** namely persons in isolated villages and fringe communities If you are able to help or have suggestions, please contact the **Publications Officer at the VHAI address.**

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This book can be made available at low cost because most of the work was done on a volunteer basis My heart-felt thanks to all those who, by giving of their time, money, and concern, made this possible

David Werner

WHERE THERE IS NO DOCTOR was revised for India by Dr Sathyamala, who has worked in Comprehensive Rural Health Planning, Jamkhed, and Integrated Community Health Project (Deenabandhu Medical Mission) in Tamil Nadu She thanks Drs Indira Kapoor, Betty Cowan and others of CMC (Christian Medical College & Hospital), Raj and Maybelle Arole, Hari and Prem Chandran John, Vijay Kumar R Kousalya Devi, J S Gill, S A Kaul, Mira Sadgopal, Bas Bueno de Mesquita and Sr Lorraine Ryan Special thanks to Meals for Millions Foundation We reproduce classification on p 128-131 in the chapter on nutrition Also thanks to Drs Joseph, Mira Sundharam and Mira Shiva who helped with the revision of the fourth edition.

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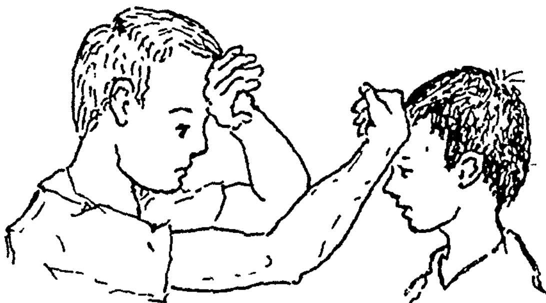
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INTRODUCTION TO THE ENGLISH EDITION

This handbook has been written primarily for those who live far from medical centers, in places where there is no doctor But even where there are doctors, people can and should take the lead in their own health care So this book is for everyone who cares It has been written in the belief that

1. **Health care is not only everyone's right, but everyone's responsibility.**
2. **Informed self-care should be the main goal of any health program or activity.**
3. **Ordinary people provided with clear, simple information can prevent and *treat most common health problems in their own homes—earlier, cheaper,* and often better than can doctors.**
4. **Medical knowledge should not be the guarded secret of a select few, but should be freely shared by everyone.**
5. **People with little formal education can be trusted as much as those with a lot. *And they are just as smart.***
6. **Basic health care should not be delivered, but encouraged.**

Clearly, a part of informed self-care is knowing one's own limits. Therefore guidelines are included not only for **what to do,** but for **when to seek help.** The book points out those cases when it is important to see or get advice from a health worker or doctor But because doctors or health workers are not always nearby, the book also suggests **what to do in the meantime**—even for very serious problems

This book has been written in fairly basic English, so that persons without much formal education (or whose first language is not English) can understand it The language used is simple but, I hope, not childish A few more difficult words have been used where they are *appropriate* or fit well Usually they are used in ways that their meanings can be easily guessed This way, those who read this book have a chance to increase their language skills as well as their medical skills.

Important words the reader may not understand are explained in a word list or *vocabulary* at the end of the book. The first time a word listed in the vocabulary is mentioned in a chapter it is usually written in *italics.*

Where There Is No Doctor was first written in Spanish for farm people in the mountains of Mexico where, for the past 13 years, the author has helped form a health care network now run by the villagers themselves *Donde No Hay Doctor* is now being used throughout Latin America

This experimental English edition has been prepared as a result of many requests to adapt it for India In spite of help and suggestions from persons with experience in many parts of India, we are still not completely satisfied with this edition

To be fully useful, this book should be adapted by persons familiar with the health needs, customs, special ways of healing, and local language of specific areas.

Persons or programs who wish to use this book, or portions of it, in preparing their own manuals for villagers or health workers are encouraged to do so Permission from the author or publisher is not needed—**provided the parts reproduced are distributed free or at cost—not for profit.** It would be appreciated if you would (1) include a note of credit and (2) send a copy of your production to the Voluntary Health Association of India, 40, Institutional Area South of IIT New Delhi-110016

For local or regional health programs that do not have the resources for revising this book or preparing their own manuals, it is strongly suggested that if the present edition is used, leaflets or inserts be supplied with the book to provide additional information as needed

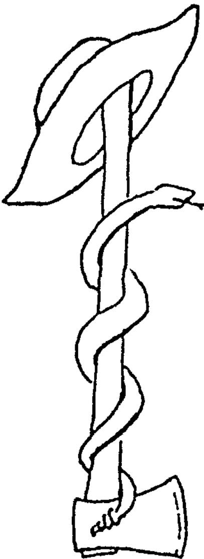
In the Green Pages (the Uses, Dosage, and Precautions for Medicines) blank spaces have been left to write in common brand names and prices of medicines Once again, local programs or organizations distributing the book would do well to make up a list of generic or low-cost brand names and prices, to be included with each copy of the book

This book was written for anyone who wants to do something about his own and other people's health However, it has been widely used as a training and work manual for community health workers For this reason, an introductory section has been added for the health worker, making clear that **the health worker's first job is to share his knowledge and help educate his people.**

Today in over-developed as well as under-developed countries, existing health care systems are in a state of crisis Often, human needs are not being well met. There is too little fairness Too much is in the hands of too few.

Let us hope that through a more generous sharing of knowledge, and through learning to use what is best in both traditional and modern ways of healing, people everywhere will develop a kinder, more sensible approach to caring—for their own health, and for each other

—D W



WORDS TO THE VILLAGE HEALTH WORKER

Who is the village health worker?

A village health worker is a person who helps lead family and neighbors toward better health Often he or she has been selected by the other villagers as someone who is especially able and kind

Some village health workers receive training and help from an organized program, perhaps the Ministry of Health Others have no official position, but are simply members of the community whom people respect as healers or leaders in matters of health Often they learn by watching, helping, and studying on their owr

In the larger sense, **a village health worker is anyone who takes part in making his village a healthier place to live.**

This means almost everyone can and should be a health worker

- Mothers and fathers can show their children how to keep clean,
- Farm people can work together to help their land produce more food,
- Teachers can teach schoolchildren how to prevent and treat many common sicknesses and injuries,
- Schoolchildren can share what they learn with their parents,
- Shopkeepers can find out about the correct use of medicines they sell and give sensible advice and warning to buyers (see p 385),
- Midwives can counsel parents about the importance of eating well during pregnancy, breast feeding, and family planning

This book was written for the health worker in the larger sense It is for anyone who wants to know and do more for his own, his family's or his people's well-being

If you are a community health worker, an auxiliary nurse, or even a doctor, remember this book is not just for you It is for **all the people.** Share it!

Use this book to help explain what you know to others. Perhaps you can get small groups together to read a chapter at a time and discuss it



THE VILLAGE HEALTH WORKER LIVES AND WORKS AT THE LEVEL OF HIS PEOPLE HIS FIRST JOB IS TO SHARE HIS KNOWLEDGE

Dear Village Health Worker,

This book is mostly about people's **health needs.** But to help your village be a healthy place to live, you must also be in touch with their **human needs.** Your understanding and concern for people are just as important as your knowledge of medicine and sanitation

Here are some suggestions that may help you serve your people's human needs as well as health needs·



HAVE COMPASSION

Kindness often helps more than medicine Never be afraid to show you care.

1. BE KIND. A friendly word, a smile, a hand on the shoulder, or some other sign of caring often means more than anything else you can do. **Treat others as your equals.** Even when you are hurried or worried, try to remember the feelings and needs of others Often it helps to ask yourself, "What would I do if this were a member of my own family?"

Treat the sick as people. Be especially kind to those who are very sick or dying And be kind to their families Let them see that you care

2. SHARE YOUR KNOWLEDGE. As a health worker, your first job is to teach This means helping people learn more about how to keep from getting sick It also means helping people learn how to recognize and manage their illnesses—including the sensible use of home remedies and common medicines



LOOK FOR WAYS TO SHARE YOUR KNOWLEDGE

There is nothing you have learned that, if carefully explained, should be of danger to anyone Some doctors talk about **self care** as if it were dangerous, perhaps because they like people to depend on their costly services But in truth, **most common health problems could be handled earlier and better by people in their own homes.**

3. RESPECT YOUR PEOPLE'S TRADITIONS AND IDEAS.

Because you learn something about modern medicine does not mean you should no longer appreciate the customs and ways of healing of your people Too often the human touch in the art of healing is lost when medical science moves in This is too bad, because

If you can use what is best in modern medicine, together with what is best in traditional healing, the combination may be better than either one alone.

In this way, you will be adding to your people's culture, not taking away

Of course, if you see that some of the home cures or customs are harmful (for example, putting excrement on the freshly cut cord of a newborn baby), you will want to do something to change this But do so carefully, with respect for those who believe in such things Never just tell people they are wrong Try to help them understand WHY they should do something differently

People are slow to change their attitudes and traditions, and with good reason They are true to what they feel is right And this we must respect

Modern medicine does not have all the answers either It has helped solve some problems, yet has led to other, sometimes even bigger ones People quickly come to depend too much on modern medicine and its experts, to overuse medicines, and to forget how to care for themselves and each other

So go slow—and always keep a deep respect for your people, their traditions, and their human dignity Help them build on the knowledge and skills they already have



WORK WITH TRADITIONAL HEALERS AND MIDWIVES—NOT AGAINST THEM

Learn from them and encourage them to learn from you

4. KNOW YOUR OWN LIMITS.

No matter how great or small your knowledge and skills, you can do a good job as long as you know and work within your limits This means **Do what you know how to do.** Do not try things you have not learned about or have not had enough experience doing, if they might harm or endanger someone



KNOW YOUR LIMITS

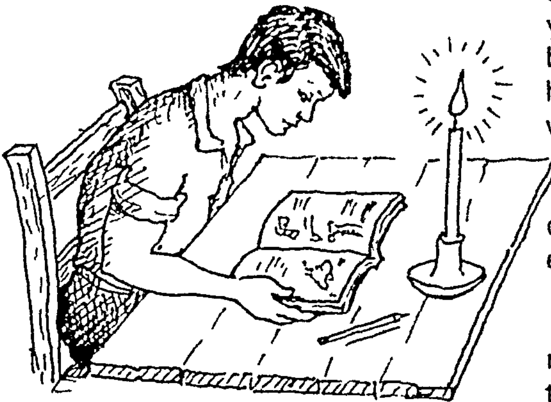
But use your judgment

Often, what you decide to do or not do will depend on how far you have to go to get more expert help

For example, a mother has just given birth and is bleeding more than you think is normal If you are only half an hour away from a medical center, it may be wise to take her there right away But if the mother is bleeding very heavily and you are a long way from the health center, you may decide to massage her womb (see p 311) or inject an oxytocic (see p 312) even if you were not taught this

Do not take unnecessary chances But when the danger is clearly greater if you do nothing, do not be afraid to try something you feel reasonably sure will help.

Know your limits—but also use your head. Always do your best to protect the sick person rather than yourself



KEEP LEARNING—Do not let anyone tell you there are things you should not learn or know

5. KEEP LEARNING.

Use every chance you have to learn more. Study whatever books or information you can lay your hands on that will help you be a better worker, teacher, or person.

Always be ready to ask questions of doctors, sanitation officers, agriculture experts, or anyone else you can learn from

Never pass up the chance to take refresher courses or get additional training

Your first job is to teach, and unless you keep learning more, soon you will not have anything new to teach others

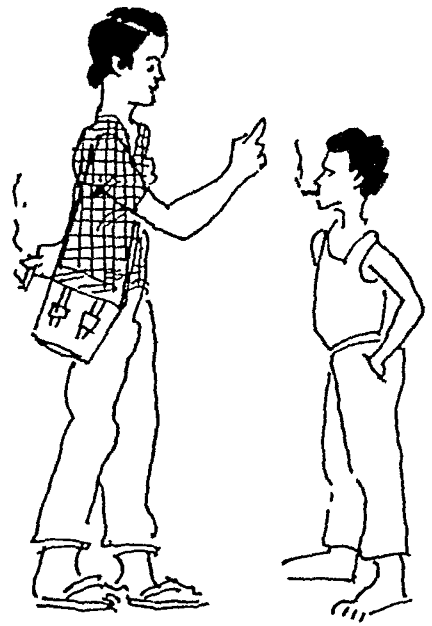
6. PRACTICE WHAT YOU TEACH.

People are more likely to pay attention to what you do than what you say. As a health worker, you want to take special care in your personal life and habits, so as to set a good example for your neighbors.

Before you ask people to make latrines, be sure your own family has one.

Also, if you help organize a work group—for example, to dig a common garbage hole—be sure you work and sweat as hard as everyone else.

A good leader does not tell people what to do. He sets the example.



PRACTICE WHAT YOU TEACH
(or who will listen to you?)

7. WORK FOR THE JOY OF IT

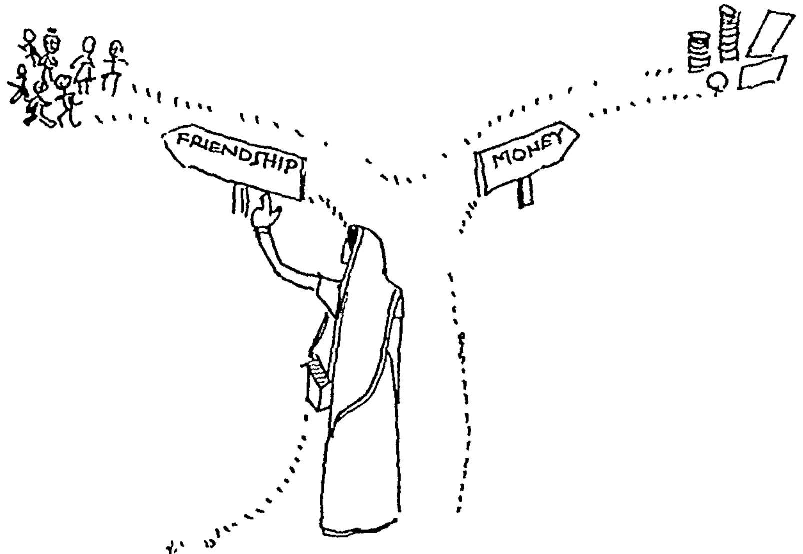
If you want other people to take part in improving their village and caring for their health, you must enjoy such activity yourself. If not, who will want to follow your example?

Try to make community work projects fun. For example, fencing off the public water hole to keep animals away from where people take water can be hard work. But if the whole village helps do it as a 'work festival'—perhaps with refreshments and music—the job will be done quickly and can be fun.

Children will work hard and enjoy it, if they can turn work into play.

You may or may not be paid for your work. But never refuse to care, or care less, for someone who is poor or cannot pay.

This way you will win your people's love and respect. These are worth far more than money.



WORK FIRST FOR THE PEOPLE—NOT THE MONEY.
(People are worth more.)

8. LOOK AHEAD—AND HELP OTHERS TO LOOK AHEAD.

A responsible health worker does not wait for people to get sick. He tries to stop sickness before it starts. He encourages people to take action **now** to protect their health and well-being in the future.

Many sicknesses can be prevented. Your job, then, is to help your people understand the causes of their health problems and do something about them.

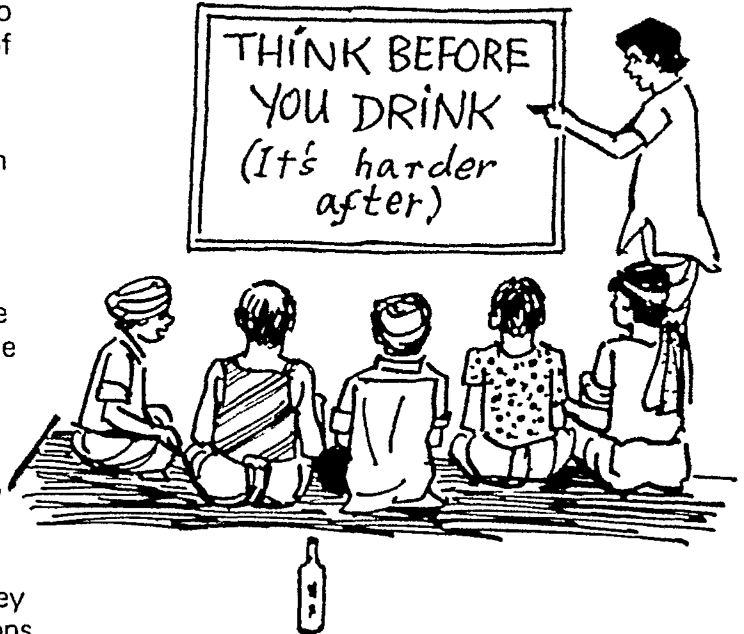
Most health problems have many causes, one leading to another. To correct the problem in a lasting way, you must look for and deal with the **underlying causes.** You must get to the root of the problem.

For example, in many villages diarrhea is the most common cause of death in small children. The spread of diarrhea is caused in part by lack of cleanliness (poor *sanitation* and *hygiene*). You can do something to correct this by digging latrines and teaching basic guidelines of cleanliness (p. 167).

But the children who suffer and die most often from diarrhea are those who are poorly nourished. Their bodies do not have strength to fight the infections. So to prevent death from diarrhea we must also prevent poor nutrition.

And why do so many children suffer from poor nutrition?

- Is it because mothers do not realize what foods are most important (for example, breast milk)?
- Is it because the family does not have enough money or land to produce the food it needs?
- Is it because a few rich persons control most of the land and the wealth?
- Is it because the poor do not make the best use of land they have?
- Is it because parents have more children than they or their land can provide for, and keep having more?
- Is it because fathers lose hope and spend the little money they have on drink?
- Is it because people do not look or plan ahead? Because they do not realize that by working together and sharing they can change the conditions under which they live and die?

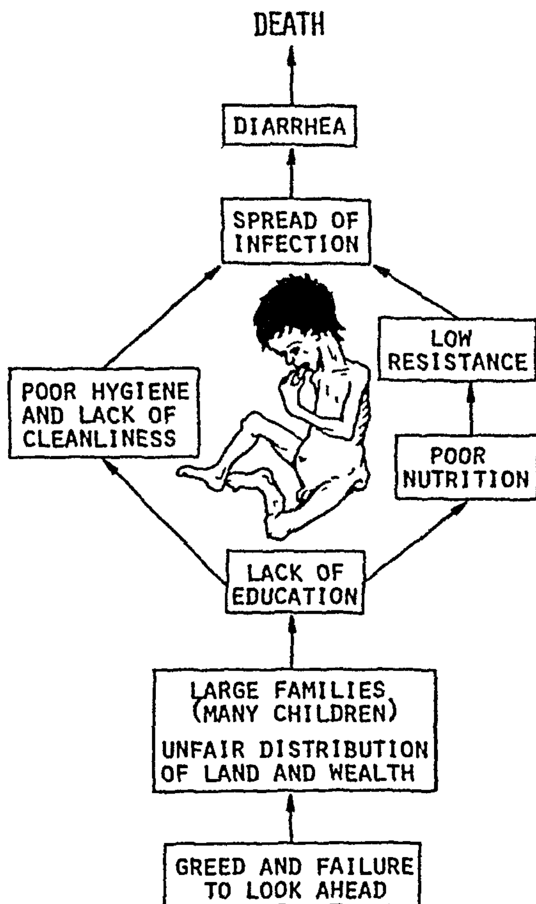


HELP OTHERS TO LOOK AHEAD

You may find that many, if not all, of these things lie behind infant deaths in your area. You will, no doubt, find other causes as well. As a health worker it is your job to help people understand and do something about as many of these causes as you can.

But remember. to prevent death from diarrhea will take far more than latrines, pure water, and nutrition centers. You may find that family planning, better land use, and fairer distribution of wealth, land, and power are more important in the long run.

The causes that lie behind much sickness and human suffering are short-sightedness and greed. If your interest is your people's well-being, you must help them learn to share, to work together, and to look ahead.



The chain of causes leading to death from diarrhea.

MANY THINGS RELATE TO HEALTH CARE

We have looked at some of the causes that underlie diarrhea and poor nutrition. Likewise, you will find that such things as **food production, land distribution, education,** and **the way people treat or mistreat each other** lie behind many different health problems.

If you are interested in the long-term welfare of your whole community, you must help your people look for answers to these larger questions.

Health is more than not being sick. It is well-being in body, mind, and community. People live best in healthy surroundings, in a place where they can trust each other, work together to meet daily needs, share in times of difficulty and plenty, and help each other learn and grow and live, each as fully as he can.

Do your best to solve day-to-day problems. But remember that your greatest job is to help your community become a more healthy and more human place to live.

You as a health worker have a big responsibility.

Where should you begin?

TAKE A GOOD LOOK AT YOUR COMMUNITY

Because you have grown up in your community and know your people well, you are already familiar with many of their health problems. You have an inside view But in order to see the whole picture, you will need to look carefully at your community from many points of view

As a village health worker, your concern is for the well-being of **all the people** —not just those you know well or who come to you. Go to your people. Visit their homes, fields, gathering places, and schools Understand their joys and concerns Examine with them their habits, the things in their daily lives that bring about good health, and those that may lead to sickness or injury

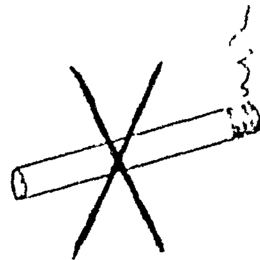
Before you and your community attempt any project or activity, carefully think about what it will require and how likely it is to work. To do this, you must consider **all** the following

1 **Felt needs**—what people feel are their biggest problems
2 **Real needs**—steps people can take to meet these problems in a lasting way
3 **Willingness**—or readiness of people to plan and take the needed steps
4 **Resources**—the persons, skills, materials, and/or money needed to carry out the activities decided upon

As a simple example of how each of these things can be important, let us suppose that a man who smokes a lot comes to you complaining of a cough that has steadily been getting worse



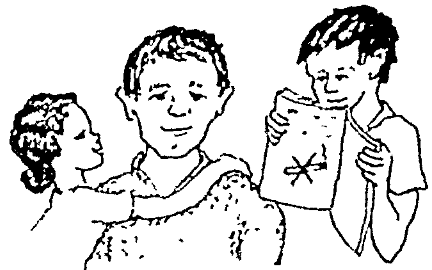
1. His felt need is to get rid of his cough



2 His real need (to correct the problem) is to give up smoking.



3 To get rid of his cough will require his willingness to give up smoking For this he must understand how much it really matters.



4 One resource that may help him give up smoking is information about the harm it can do him and his family (see p178). Another is the support and encouragement of his family, his friends, and you

Finding Out the Needs

As a health worker, you will first want to find out your people's most important health problems and their biggest concerns To gather the information necessary to decide what the greatest needs and concerns really are, it may help to make up a list of questions

On the next 2 pages are samples of the kind of things you may want to ask. But think of questions that are important **in your area.** Ask questions that not only help you get information, but that get others asking important questions themselves

Do not make your list of questions too long or complicated—especially a list you take from house to house Remember, **people are not numbers** and do not like to be looked at as numbers As you gather information, be sure your first interest is always in what individuals want and feel. It may be better not even to carry a list of questions But in considering the needs of your community, you should keep certain basic questions in mind





Sample Lists of Questions

To Help Determine Community Health Needs And at the Same Time Get People Thinking



FELT NEEDS

What things in your people's daily lives (living conditions, ways of doing things, beliefs, etc.) do they feel help them to be healthy?

What do people feel to be their major problems, concerns, and needs—not only those related to health, but in general?



HOUSING AND SANITATION



What are different houses made of? Walls? Floors? Are the houses kept clean? Is cooking done on the floor or where? How does smoke get out? On what do people sleep?

Are flies, fleas, bedbugs, rats, or other pests a problem? In what way? What do people do to control them? What else could be done?

Is food protected? How could it be better protected?

What animals (dogs, chickens, pigs, etc.), if any, are allowed in the house? What problems do they cause?

What are the common diseases of animals? How do they affect people's health? What is being done about these diseases?

Where do families get their water? Is it safe to drink? What precautions are taken?

How many families have latrines? How many use them properly?

Is the village clean? Where do people put garbage? Why?



POPULATION



How many people live in the community? How many are under 15 years old?

How many can read and write? What good is schooling? Does it teach children what they need to know? How else do children learn?

How many babies were born this year? How many people died? Of what? At what ages? Could their deaths have been prevented? How?

Is the population (number of people) getting larger or smaller? Does this cause any problems?

How often were different persons sick in the past year? How many days was each sick? What sicknesses or injuries did each have? Why?

How many people have chronic (long-term) illnesses? What are they?

How many children do most parents have? How many children died? Of what? At what ages? What were some of the **underlying** causes?

How many parents are interested in not having any more children or in not having them so often? For what reasons? (See Family Planning, p.329.)

NUTRITION



How many mothers breast feed their babies? For how long? Are these babies healthier than those who are not breast fed? Why?

What are the main foods people eat? Where do they come from?

Do people make good use of all foods available?

How many children are underweight (see p. 132) or show signs of poor nutrition? How much do parents and schoolchildren know about nutritional needs?

How many people smoke a lot? How many drink alcoholic or soft drinks very often? What effect does this have on their own and their families' health? (See p. 176 to 179)



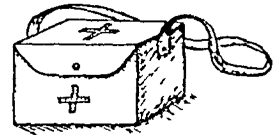
LAND AND FOOD

Does the land provide enough food for each family? How long will it continue to produce enough food if families keep growing?

How is farm land distributed? How many people own their land?

What efforts are being made to help the land produce more?

How are crops and food stored? Is there much damage or loss? Why?



HEALING, HEALTH

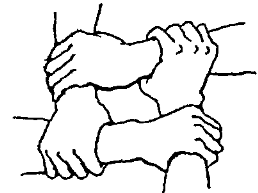
What role do local midwives and healers play in health care?

What traditional ways of healing and medicines are used? Which are of greatest value? Are any harmful or dangerous?

What health services are nearby? How good are they? What do they cost? How much are they used?

How many children have been vaccinated? Against what sicknesses?

What other preventive measures are being taken? What others might be taken? How important are they?



SELF-HELP

What are the most important things that affect your people's health and well-being—now and in the future?

How many of their common health problems can people care for themselves? How much must they rely on outside help and medication?

Are people interested in finding ways of making self-care safer, more effective, and more complete? Why? How can they learn more? What stands in the way?

What are the rights of rich people? Of poor people? Of men? Of women? Of children? How is each of these groups treated? Why? Is this fair? What needs to be changed? By whom? How?

Do people work together to meet common needs? Do they share or help each other when needs are great?

What can be done to make your village a better, healthier place to live? Where might you and your people begin?

USING LOCAL RESOURCES TO MEET NEEDS

How you deal with a problem will depend upon what resources are available

Some activities require outside resources (materials, money, or people from somewhere else) For example, a vaccination program is possible only if vaccines are brought in—often from another country

Other activities can be carried out completely with local resources A family or a group of neighbors can fence off a water hole or build simple latrines using materials close at hand

Some outside resources, such as vaccines and a few important medicines, can make a big difference in people's health You should do your best to get them. But as a general rule, it is in the best interest of your people to

Use local resources whenever possible.

The more you and your people can do for yourselves, and the less you have to depend on outside assistance and supplies, the healthier and stronger your community will become

Not only can you count on local resources to be on hand when you need them, but often they do the best job at the lowest cost For example, if you can encourage mothers to breast feed rather than bottle feed their babies, this will build self-reliance through a top quality local resource—breast milk! It will also prevent needless sickness and death of many babies

In your health work always remember

Encourage people to make the most of local resources



BREAST MILK—A TOP QUALITY LOCAL RESOURCE—BETTER THAN ANYTHING MONEY CAN BUY!

The most valuable resource for the health of the people is the people themselves.

DECIDING WHAT TO DO AND WHERE TO BEGIN

After taking a careful look at needs and resources, you and your people must decide which things are more important and which to do first You can do many different things to help people be healthy Some are important immediately. Others will help determine the future well-being of individuals or the whole community.

In a lot of villages, poor nutrition plays a part in other health problems **People cannot be healthy unless there is enough to eat.** Whatever other problems you decide to work with, if people are hungry or children are poorly nourished, better nutrition must be your first concern.

There are many different ways to approach the problem of poor nutrition, for many different things join to cause it. You and your community must consider the possible actions you might take and decide which are most likely to work.

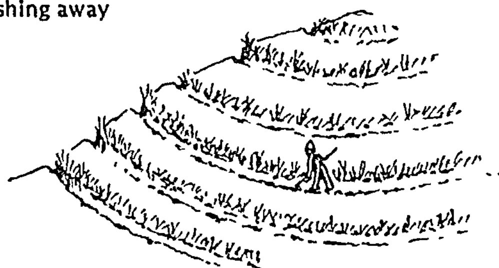
Here are a few examples of ways some people have helped meet their needs for better nutrition Some actions bring quick results. Others work over a longer time. You and your people must decide what is most likely to work in your area.

POSSIBLE WAYS TO WORK TOWARD BETTER NUTRITION

FAMILY GARDENS



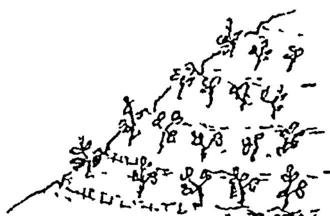
CONTOUR DITCHES
to prevent soil from washing away



ROTATION OF CROPS
Every other planting season plant a crop that returns strength to the soil—like beans, peas, lentils, alfalfa, peanuts or some other plant with seed in pods (legumes)



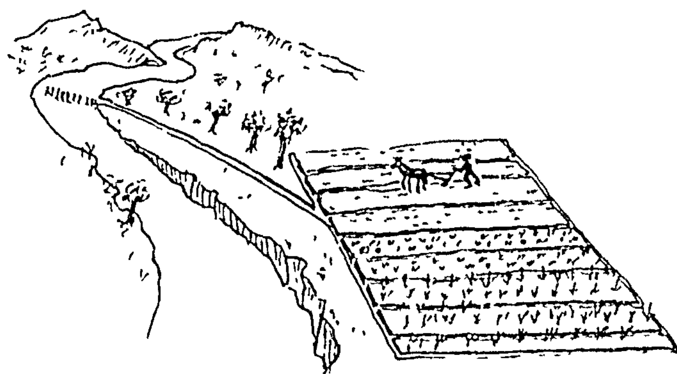
This year maize



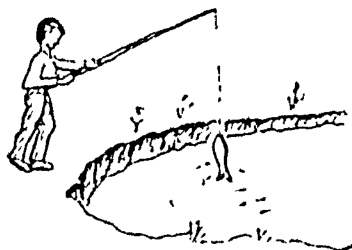
Next year beans

MORE WAYS TO WORK TOWARD BETTER NUTRITION

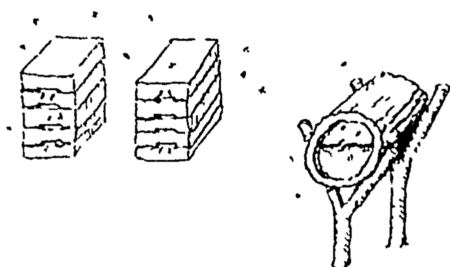
IRRIGATION OF LAND



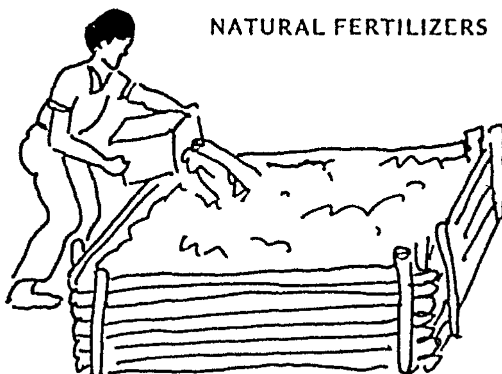
FISH BREEDING



BEEKEEPING

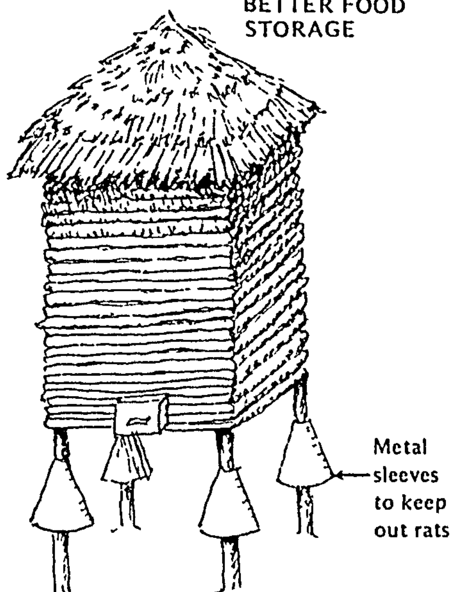


NATURAL FERTILIZERS

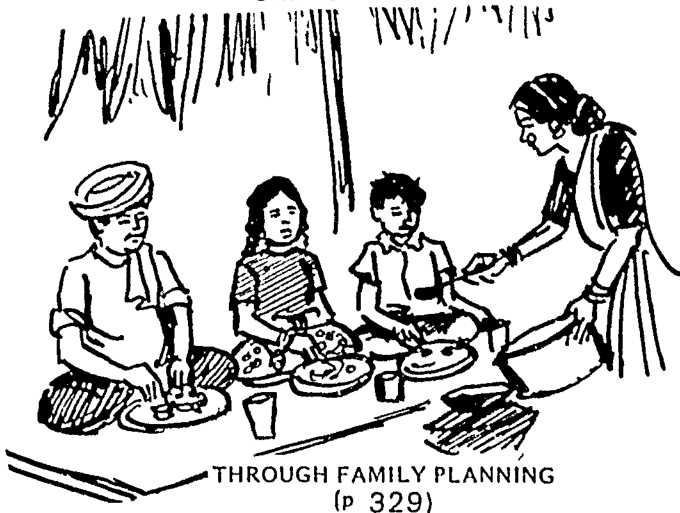


Compost pile

BETTER FOOD STORAGE



SMALLER FAMILIES



THROUGH FAMILY PLANNING (p 329)

TRYING A NEW IDEA



START SMALL

Not all the suggestions on the last pages are likely to work in your area Perhaps some will work if changed for your particular situation and resources at hand Often you can only know whether something will work or not by trying it That is, by experiment

When you try out a new idea, **always start small.** If you start small and the experiment fails, or something has to be done differently, you will not lose much If it works, people will see that it works and can begin to apply it in a bigger way.

Do not be discouraged if an experiment does not work. Perhaps you can try again with certain changes. You can learn as much from your failures as your successes But start small.

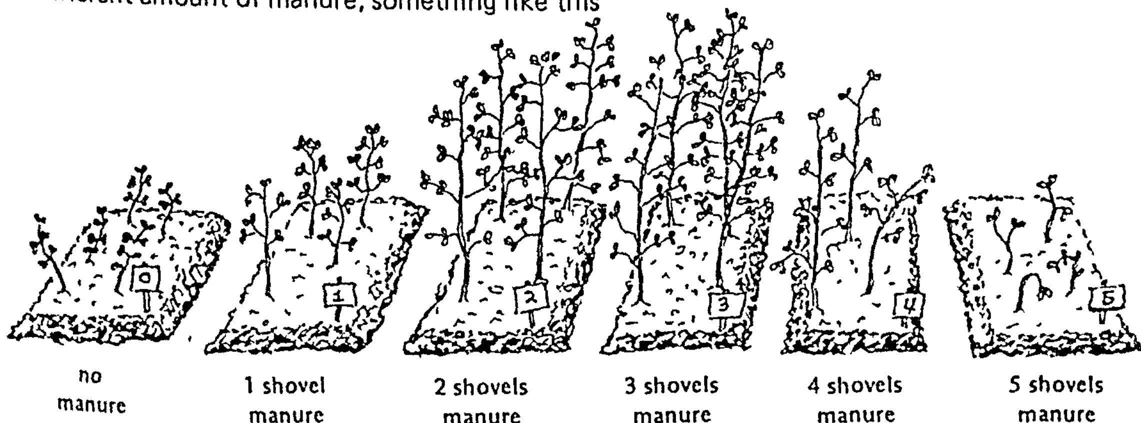
Here is an example of experimenting with a new idea.

You learn that a certain kind of bean, such as soya, is an excellent body-building food But will it grow in your area? And if it grows, will people eat it?

Start by planting a small patch—or 2 or 3 small patches in different conditions of soil or water. If the beans do well, try preparing them in different ways, and see if people will eat them If so, try planting more beans in the conditions where you found they grew best But try out still other conditions in more small patches to see if you can get an even better crop.

There may be several conditions you want to try changing For example, type of soil, addition of fertilizer, amount of water, or different varieties of seed To best understand what helps and what does not, be sure to change only **one** condition at a time and keep all the rest the same

For example, to find out if animal fertilizer (manure) helps the beans grow, and how much to use, plant several small bean patches side by side, under the same conditions of water and sunlight, and using the same seed But before you plant, mix each patch with a different amount of manure, something like this



This experiment shows that a certain amount of manure helps, but that too much can harm the plants. This is only an example Your experiments may give different results. Try for yourself!

WORKING TOWARD A BALANCE BETWEEN PEOPLE AND LAND

As a health worker you should do all you can to protect the lives and health of children If, through your efforts, fewer children die, you must also consider how this affects the future well-being of your community and the children to come Fewer deaths means more people And in time this can mean hunger, for the land can only feed a certain number

The growing number of people in your village may be able to hold off hunger for a while by better use of land, so that it produces more food But if parents continue to have big families, and their children in turn have big families, the time will come when there is not enough land or food for all the people

It would be very sad if preventing children's deaths now means more must starve in the future Yet this may happen if parents continue to have large families It is already happening in many parts of the world

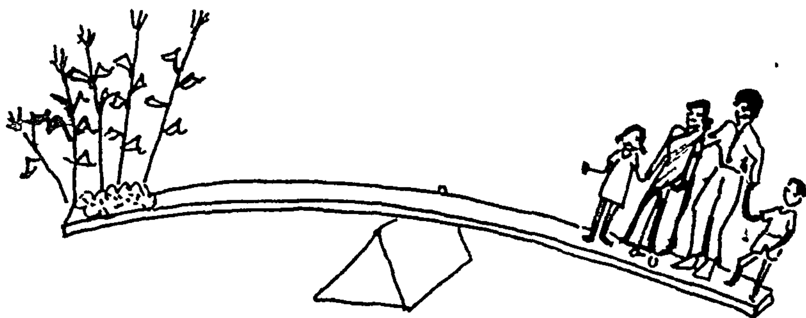
One of your most important jobs may be to help people realize how important it is to limit the size of their families This is especially true if many of your people already do not have enough land to feed their families properly

Chapter 20 gives information on different methods of family planning Find out which methods are possible in your area, and which your people prefer Help inform and supply parents and local midwives

People will often come to you with health problems that relate to having large families When you see a mother who has had one child after another, and who is very tired, anemic, or fails to produce milk for her baby, or when you see a child who is badly nourished or bears the marks of crowding and poverty, talk to the parents about family planning Often a mother will not want another child, but will not mention this until you ask

Family planning may be one of the most important preventive measures you can help with Unless people learn to distribute their land and wealth more fairly and to have smaller families, all other preventive measures may only mean that in time more people starve

If you help your people prevent children's deaths, you should also help them prevent having more children than they can clothe, educate, and feed



A LIMITED AMOUNT OF LAND CAN ONLY SUPPORT A LIMITED NUMBER OF PEOPLE

WORKING TOWARD A BALANCE BETWEEN Prevention and Treatment

A balance between treatment and prevention often comes down to a balance between immediate needs and long-term needs

As a health worker you must go to your people, work with them on their terms, and help them find answers to the needs they feel most People's first concern is often to find relief for the sick and suffering Therefore, **one of your first concerns must be to help with healing.**

But also look ahead While caring for people's immediate felt needs, also help them look to the future Help them realize that much sickness and suffering can be prevented and that they themselves can take preventive actions

But be careful! Sometimes health planners and workers go too far In their eagerness to prevent future ills, they may show too little concern for the sickness and suffering that already exist By failing to respond to people's present needs, they may fail to gain their cooperation And so they fail in much of their preventive work as well

Treatment and prevention go hand in hand. Early treatment often prevents mild illness from becoming serious If you help people to recognize many of their common health problems and to treat them early, in their own homes, much needless suffering can be prevented

Early treatment is a form of preventive medicine.

If you want their cooperation, **start where your people are.** Work toward a balance between prevention and treatment that is acceptable to them Such a balance will be largely determined by people's present attitudes toward sickness, healing, and health As you help them look farther ahead, as their attitudes change, and as more diseases are controlled, you may find that the balance shifts naturally in favor of prevention

You cannot tell the mother whose child is ill that prevention is more important than cure Not if you want her to listen But you can tell her, while you help her care for her child, that prevention is equally important

Work toward prevention— do not force it.

Use treatment as a doorway to prevention. One of the best times to talk to people about prevention is when they come for treatment For example, if a mother brings a child with worms, carefully explain to her how to treat him But also take time to explain to both the mother and child how the worms are spread and the different things they can do to prevent this from happening (see Chapter 13) Visit their home from time to time, not to find fault, but to help the family toward more effective self-care

Use treatment as a chance to teach prevention.

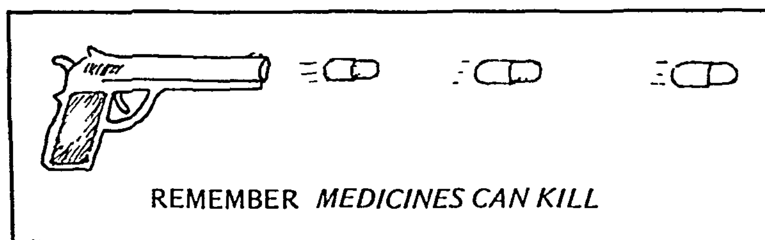
SENSIBLE AND LIMITED USE OF MEDICINES

One of the most difficult and important parts of preventive care is to educate your people in the sensible and limited use of medicines A few modern medicines are very important and can save lives But **no medicine is needed for most sicknesses.** The body itself can usually fight off sickness with rest, good food, and perhaps some simple home remedies

People may come to you asking for medicine when they do not need any You may be tempted to give them some medicine just to please But if you do, when they get well, they will think that you and the medicine cured them Really their bodies cured themselves

Instead of teaching people to depend on medicines they do not need, take time to explain **why** they should not be used Also tell the person **what he can do himself** to get over his sickness

This way you are helping the person to rely on a local resource (himself), rather than on an outside resource (medicine). Also, you are protecting the person, for **there is no medicine that does not have some risk in its use.**



REMEMBER *MEDICINES CAN KILL*

Three common health problems for which people too often request medicines they do not need are (1) the common cold, (2) minor cough, and (3) diarrhea

The common cold is best treated by resting, drinking lots of liquids, and at the most taking aspirin Penicillin, tetracycline, and other antibiotics do not help at all (see p 200)

For minor coughs, or even more severe coughs with thick mucus or *phlegm,* drinking a lot of water will loosen mucus and ease the cough faster and better than cough syrup Breathing warm water vapor brings even greater relief (see p 205) Do not make people dependent on cough syrup or other medicines they do not need

For most diarrhea of children use of medicines does not make them get well Many of those commonly used (neomycin, streptomycin, kaolin-pectin, *Lomotil, Entero-Vioform,* chloramphenicol) may even be harmful What is most important is that the child get lots of liquids and enough food (see p 186 to187) **The key to the child's recovery is the mother, not thd medicine.** If you can help mothers understand this and learn what to do, many children's lives can be saved

Medicines are often used too much, both by doctors and by ordinary people This is unfortunate for many reasons

- It is wasteful
- It makes people depend on something they do not need (and often cannot afford)
- Every medicine has some risk in its use There is always a chance that an unneeded medicine may actually do the person harm
- What is more, when some medicines are used too often for minor problems, they lose their power to fight dangerous sicknesses

An example of a medicine losing its power is chloramphenicol The extreme overuse of this important but risky antibiotic for minor infections has meant that in some parts of the world chloramphenicol no longer works against typhoid fever, a very dangerous infection Frequent overuse of chloramphenicol has allowed typhoid to become *resistant* to it (see p 70)

For all the above reasons the use of medicines should be limited

But how? Neither rigid rules and restrictions nor permitting only highly trained persons to decide about the use of medicines has prevented overuse Only when the people themselves are better informed will the limited and careful use of medicines be common

To educate people about sensible and limited use of medicines is one of the important jobs of the health worker.

This is especially true in areas where modern medicines are already in great use



WHEN MEDICINES ARE NOT NEEDED, TAKE TIME TO EXPLAIN WHY

For more information about the use and misuse of medicines, see Chapter 6, page 61 For the use and misuse of injections, see Chapter 9, page 77 For sensible use of home remedies, see Chapter 1

FINDING OUT WHAT PROGRESS HAS BEEN MADE (EVALUATION)

From time to time in your health work, it helps to take a careful look at **what** and **how much** you and your people have succeeded in doing What changes, if any, have been made to improve health and well-being in your community?

You may want to record each month or year the health activities that can be measured For example

- How many families have put in latrines?
- How many farmers take part in activities to improve their land and crops?
- How many mothers and children take part in an *Under-Fives Program* (regular check-ups and learning)?

This kind of question will help you measure **action taken.** But to find out the result or **impact** of these activities on health, you will need to answer other questions such as

- How many children had diarrhea or signs of worms in the past month or year—as compared to before there were latrines?
- How much was harvested this season (corn, beans, or other crops)—as compared to before improved methods were used?
- How many children show normal weight and weight gain on their Road to Health Charts (see p 343—as compared to when the Under-Fives Program was started?

To be able to judge the success of any activity you need to collect certain information both before and after For example, if you want to teach mothers how important it is to breast feed their babies, first take a count of how many mothers are doing so Then begin the teaching program and each year take another count This way you can get a good idea as to how much effect your teaching has had

You may want to set goals For example, you and the health committee may hope that 80% of the families have latrines by the end of one year Every month you take a count If, by the end of six months, only one-third of the families have latrines, you know you will have to work harder to meet the goal you set for yourselves

Setting goals often helps people work harder and get more done.

To evaluate the results of your health activities it helps to count and measure certain things **before, during,** and **after.**

But remember **The most important part of your health work cannot be measured.** It has to do with the way you and other people relate to each other, with people learning and working together, with the growth of kindness, responsibility, sharing, and hope. You cannot measure these things. But weigh them well when you consider what changes have been made.

TEACHING AND LEARNING TOGETHER— THE HEALTH WORKER AS AN EDUCATOR

As you come to realize how many things affect health, you may think the health worker has an impossibly large job And true, you will never get much done if you try to deliver health care by yourself

Only when the people themselves become actively responsible for their own and their community's health, can important changes take place.

Your community's well-being depends on the involvement not of one person, but of nearly everyone For this to happen, responsibility and knowledge must be shared

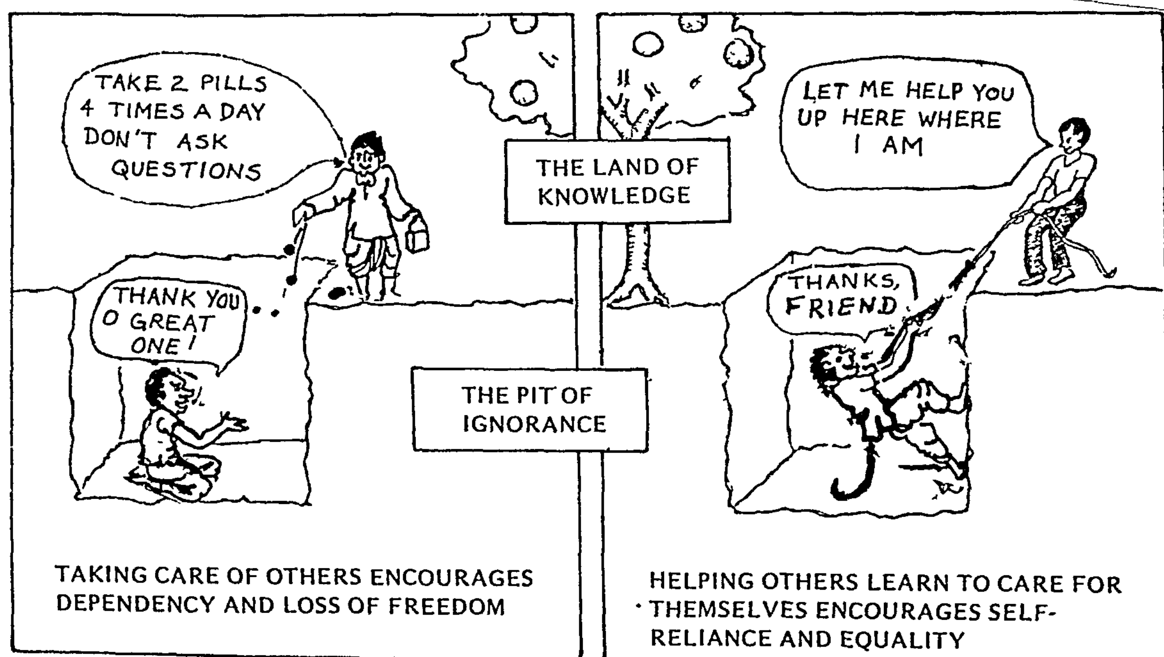
This is why **your first job as a health worker is to teach**—to teach children, parents, farmers, schoolteachers, other health workers—everyone you can

The art of teaching is the most important skill a person can learn To teach is to help others grow, and to grow with them **A good teacher is not someone who puts ideas into other people's heads; he is someone who helps others build on their own ideas, to make new discoveries for themselves.**

Teaching and learning should not be limited to the schoolhouse or health post They should take place in the home and in the fields and on the road As a health worker one of your best chances to teach will probably be when you treat the sick But you should look for every opportunity to exchange ideas, to share, to show, and to help your people think and work together

On the next few pages are some ideas that may help you do this They are only suggestions You will have many other ideas yourself

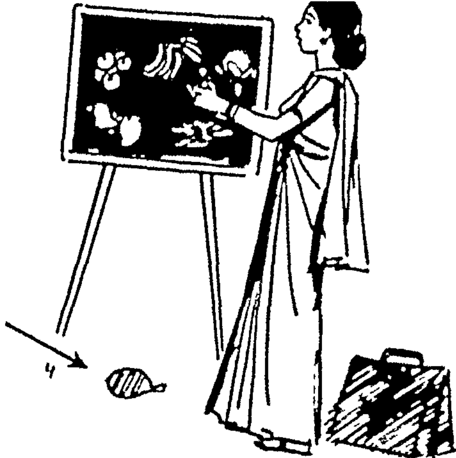
TWO APPROACHES TO HEALTH CARE



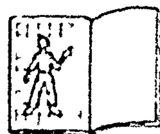
TAKING CARE OF OTHERS ENCOURAGES DEPENDENCY AND LOSS OF FREEDOM

HELPING OTHERS LEARN TO CARE FOR THEMSELVES ENCOURAGES SELF-RELIANCE AND EQUALITY

Tools for Teaching

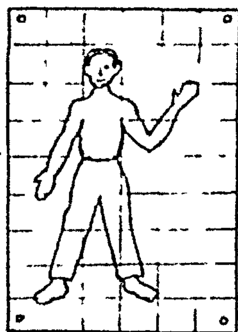


Flannel-graphs are good for talking with groups because you can keep making new pictures Cover a square board or piece of card-board with a flannel cloth You can place different cutout drawings or photos on it Strips of sandpaper or flannel glued to the backs of cutouts help them stick to the flannelboard



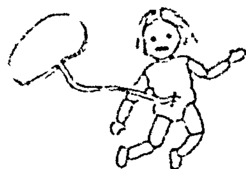
Posters and displays. "A picture is worth a thousand words" Simple drawings, with or without a few words of information, can be hung in the health post or anywhere that people will look at them You can copy some of the pictures from this book

If you have trouble getting sizes and shapes right, draw light even squares in pencil over the picture you want to copy

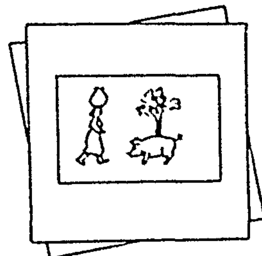


Now draw the same number of squares lightly, but larger, on the poster paper or cardboard Then copy the drawing, square for square

If possible, ask village artists to draw or paint posters Or have children make posters on different subjects



Models and demonstrations help get ideas across For example, if you want to talk with mothers and midwives about care in cutting the cord of a newborn child, you can make a doll for the baby Pin a cloth cord to its belly Experienced midwives can demonstrate to others



Color slides and filmstrips are available on different health subjects for many parts of the world Some come in sets that tell a story Simple viewers and battery-operated projectors are also available

Teaching materials to use for health education in your village are available from the Voluntary Health Association of India 40, Institutional Area South of IIT New Delhi - 110 016 Please also see the addresses on p 437 and 440.

Other Ways to Get Ideas Across

Story telling. When you have a hard time explaining something, a story, especially a true one, will help make your point

For example, if I tell you that sometimes a village worker can make a better diagnosis than a doctor, you may not believe me But if I tell you about a village health worker called Lalan Bai, who works in a village called Jamkhed, you may understand

One day a small sickly child arrived at the nutrition centre He had been sent by the doctor at the nearby health centre because he was badly malnourished The child also had a cough, and the doctor had prescribed a cough medicine Lalan Bai was worried about the child She knew he came from a very poor family and that an older brother had died a few weeks before She went to visit the family and learned that the older brother had been sick for a long time and had coughed blood Lalan Bai went to the health centre and told the doctor she was afraid the child had tuberculosis Tests were made, and it turned out that Lalan Bai was right So you see, the health worker spotted the real problem before the doctor - because she knew her people and visited their homes

Stories also make learning more interesting It helps if health workers are good story tellers

Play acting. Stories that make important points can reach people with even more force if they are acted out Perhaps you, the schoolteacher, or someone on the health committee can plan short plays or 'skits' with the schoolchildren.

For example, to make the point that food should be protected from flies to prevent the spread of disease, several small children could dress up as flies and buzz around food. The flies dirty the food that has not been covered Then children eat this food and get sick But the flies cannot get at food in a box with a wire screen front So the children who eat this food stay well.



The more ways you can find to share ideas, the more people will understand and remember.

Working and Learning Together for the Common Good

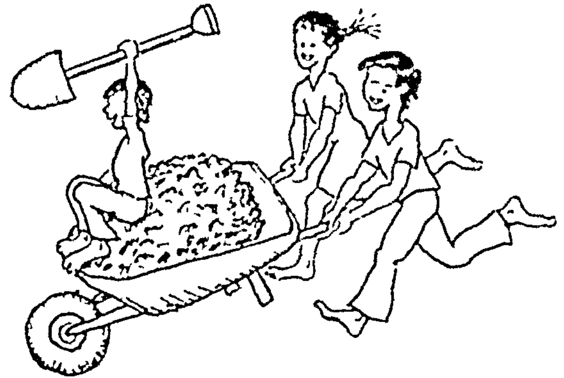
There are many ways to interest and involve people in working together to meet their common needs Here are a few ideas

1 **A village health committee.** A group of able, interested persons can be chosen by the village to help plan and lead activities relating to the well-being of the community—for example, digging garbage pits or latrines The health worker can and should share much of his responsibility with other persons

2 **Group discussions.** Mothers, fathers, schoolchildren, young people, folk healers, or other groups can discuss needs and problems that affect health Their chief purpose can be to help people share ideas and build on what they already know

3 **Work festivals** Community projects such as putting in a water system or cleaning up the village go quickly and can be fun if everybody helps Games, races, refreshments, and simple prizes help turn work into play Use imagination

4 **Cooperatives.** People can help keep prices down by sharing tools, storage, and perhaps land Group cooperation can have a big influence on people's well-being



CHILDREN CAN DO AN AMAZING AMOUNT OF WORK WHEN IT IS TURNED INTO A GAME!

5 **Classroom visits.** Work with the village schoolteacher to encourage health-related activities, through demonstrations and play acting Also invite small groups of students to come to the health center Children not only learn quickly, but they can help out in many ways If you give children a chance, they gladly become a valuable resource

6 **Mother and child health meetings.** It is especially important that pregnant women and mothers of small children (under five) be well informed about their own and their babies' health needs Regular visits to the health post are opportunities for both check-ups and learning Have mothers keep their children's health records and bring them each month to have their children's age and weight recorded (see the Road to Health Chart, p.343) Mothers who understand the chart often take pride in making sure their children are eating and growing well They can learn to understand them even if they cannot read Perhaps you can help train interested mothers to organize and lead these activities

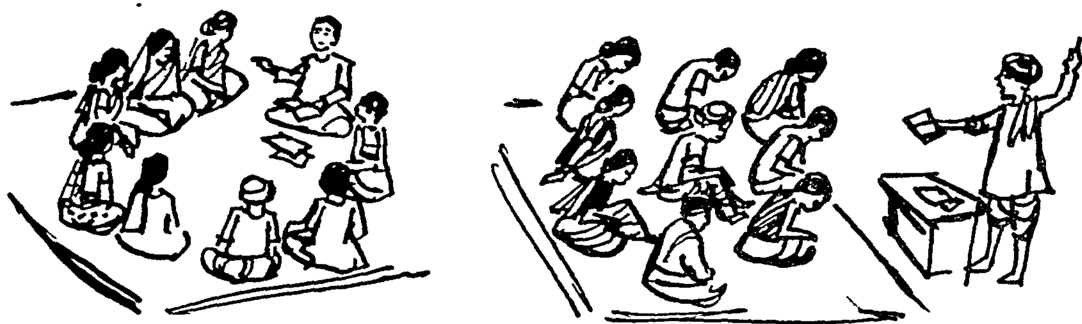
7 **Home visits.** Make friendly visits to people's homes, especially homes of families who have special problems, who do not come often to the health post, or who do not take part in group activities But respect people's privacy If your visit cannot be friendly, do not make it—unless children or defenseless persons are in danger

Ways to Share and Exchange Ideas in a Group

As a health worker you will find that the success you have in improving your people's health will depend far more on your skills as a teacher than on your medical or technical knowledge. For only when the whole community is involved and works together can big problems be overcome

People do not learn much from what they are told They learn from what they think, feel, discuss, see, and do together

So the good teacher does not sit behind a desk and talk **at** people He talks and works **with** them He helps his people to think clearly about their needs and to find suitable ways to meet them. He looks for every opportunity to share ideas in an open and friendly way



TALK WITH PEOPLE . . . . NOT AT THEM

Perhaps the most important thing you can do as a health worker is to awaken your people to their own possibilities to help them gain confidence in themselves Sometimes villagers do not change things they do not like because they do not try Too often they may think of themselves as ignorant and powerless But they are not Most villagers, including those who cannot read or write, have remarkable knowledge and skills They already make great changes in their surroundings with the tools they use, the land they farm, and the things they build They can do many important things that people with a lot of schooling cannot

If you can help people realize how much they already know and have done to change their surroundings, they may also realize that they can learn and do even more By working together it is within their power to bring about even bigger changes for their health and well-being

Then how do you tell people these things? Often you cannot!

But you can help them find out some of these things for themselves—by bringing them together for discussions Say little yourself, but start the discussion by asking certain questions Simple pictures like the drawing on the next page of a farm family in **Andhra Pradesh** may help You will want to draw your own picture, with buildings, people, animals, and crops that look as much as possible like those in your area



Show a group of people a picture similar to this and ask them to discuss it Ask questions that get people talking about what they know and can do Here are some sample questions

- Who are the people in the picture and how do they live?
- What was this land like before the people came?
- In what ways have they changed their surroundings?
- How do these changes affect their health and well-being?
- What other changes could these people make? What else could they learn to do? What is stopping them? How could they learn more?
- How did they learn to farm? Who taught them?
- If a doctor or a lawyer moved onto this land with no more money or tools than these people, could he farm as well? Why or why not?
- In what ways are these people like ourselves?

This kind of group discussion helps build people's confidence in themselves and in their ability to change things It can also make them feel more involved in their community

At first you may find that people are slow to speak out and say what they think But after a while they will usually begin to talk more freely and ask important questions themselves Encourage everyone to say what he feels and to speak up without fear. Ask those who talk most to give a chance to those who are slower to speak up

You can think of many other drawings and questions to start discussions that can help people look more clearly at problems, their causes, and possible solutions

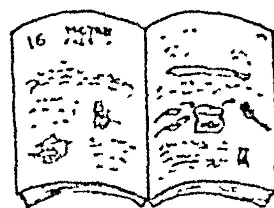
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What questions can you ask to get people thinking about the different things that lead to the condition of the child in the following picture?



Try to think of questions that lead to others and get people asking for themselves How many of the causes underlying death from diarrhea (see p. w7) will your people think of when they discuss a picture like this?

MAKING THE BEST USE OF THIS BOOK



Anyone who knows how to read can use this book in his own home Even those who do not read can learn from the pictures But to make the fullest and best use of the book, people often need some instruction This can be done in several ways

A health worker or anyone who gives out the book should make sure that people understand how to use the list of Contents, the Index, the Green Pages and the Vocabulary Take special care to give examples of **how to look things up.** Urge each person to carefully read the sections of the book that will help him understand **what may be helpful to do, what could be harmful or dangerous,** and **when it is important to get help** (see especially Chapters 1, 2, 6, and 9, and also the SIGNS OF DANGEROUS ILLNESS, p 52) Point out how important it is to **prevent sickness** before it starts Encourage people to pay special attention to Chapters 11 and 12, which deal with **eating right** (nutrition) and **keeping clean** (hygiene and sanitation)

Many of these things can be explained briefly But the more time you spend with people **discussing** how to use the book or **reading and using it together,** the more everyone will get out of it

You as a health worker might encourage people to get together in small groups to read through the book, discussing one chapter at a time Look at the biggest problems in your area—what to do about health problems that already exist and how to prevent similar problems in the future Try to get people looking ahead

Perhaps interested persons can get together for a short class using this book (or others) as a text Members of the group could discuss how to recognize, treat, and prevent different problems They could take turns teaching and explaining things to each other

To help learning be fun in these classes you can act out situations For example, someone can act as if he has a particular sickness and can explain what he feels Others then ask questions and examine him (Chapter 3) Use the book to try to find out what his problem is and what can be done about it The group should remember to involve the 'sick' person in learning more about his own sickness—and should end up by discussing with him ways of preventing the sickness in the future All this can be acted out in class

As a health worker, one of the best ways you can help people use this book correctly is this When persons come to you for treatment, have them look up their own or their child's problem in the book and find out how to treat it This takes more time, but helps much more than doing it for them Only when someone makes a mistake or misses something important do you need to step in and help him learn how to do it better In this way, **even sickness gives a chance to help people learn.**

Dear village health worker—whoever and wherever you are, whether you have a title or official position, or are simply someone, like myself, with an interest in the well-being of others—make good use of this book It is for you and for everyone

But remember, the most important part of health care you will not find in this book or any other The key to good health lies within you and your people, in the care, the concern, and the appreciation you have for each other If you want to see your community be healthy, build on these

Caring and sharing are the key to health.

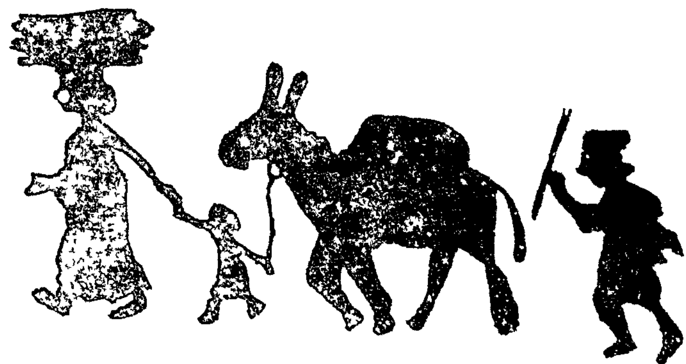
Yours truly,

David

David Werner

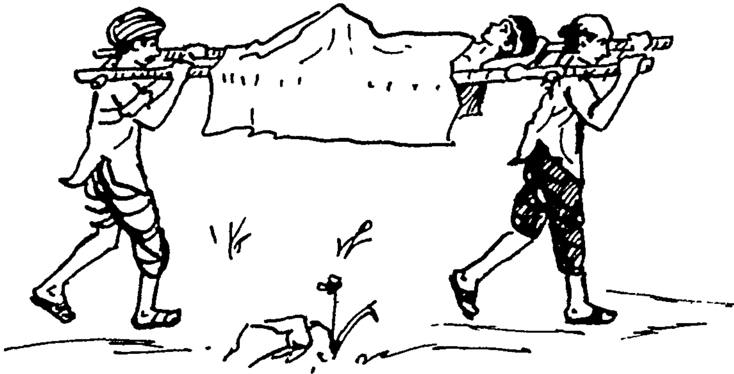






NOTICE

This book is to help people meet most of their common health needs for and by themselves But it does not have all the answers In case of serious illness or if you are uncertain about how to handle a health problem, get advice from a health worker or doctor whenever possible



CHAPTER

1 HOME CURES AND POPULAR BELIEFS

Everywhere on earth people use home remedies In some places, the older or *traditional* ways of healing have been passed down from parents to children for hundreds of years

Many home remedies have great value Others have less. And some may be risky or harmful. Home remedies, like modern medicines, must be used with caution

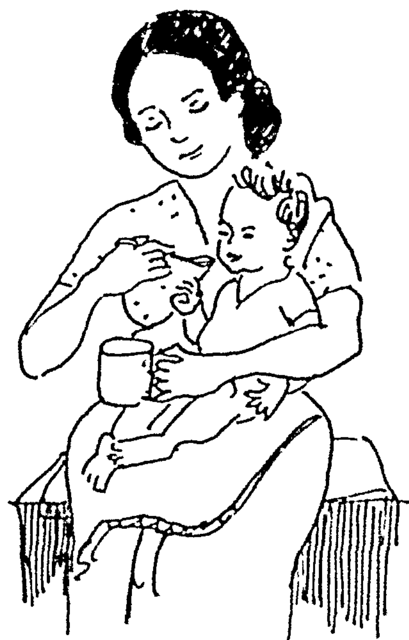
Try to *do no harm.*
Only use home remedies if you are sure they are safe and know exactly how to use them.

HOME CURES THAT HELP

For many sicknesses, time-tested home remedies work as well as modern medicines —or even **better.** They are often **cheaper.** And in some cases they are **safer.**

For example, many of the herbal teas people use for home treatment of coughs and colds do more good and cause fewer problems than cough syrups and strong medicines some doctors prescribe

Also, teas or sweetened drinks many mothers give to babies with diarrhea are often safer and do more good than any modern medicine What matters most is that a baby with diarrhea get plenty of liquids (see p 181).



FOR COUGHS, COLDS, AND COMMON DIARRHEA, HERBAL TEAS ARE OFTEN *BETTER, CHEAPER, AND SAFER* THAN MODERN MEDICINES

The Limitations of Home Remedies

Some diseases are helped by home remedies. Others can be treated better with modern medicine This is true for most serious infections Sicknesses like pneumonia, tetanus, typhoid, tuberculosis, appendicitis, diseases caused by sexual contact, and fever after childbirth should be treated with modern medicines as soon as possible For these diseases, do not lose time trying to treat them first with home remedies only.

It is sometimes hard to be sure which home remedies work well and which do not. More careful studies are needed. For this reason:

It is often safer to treat very serious illnesses with modern medicines—following the advice of a health worker if possible.

Old Ways and New

Some modern ways of meeting health needs work better than old ones But at times the older, traditional ways are best For example, traditional ways of caring for children or old people are often kinder and work better than some newer, less personal ways

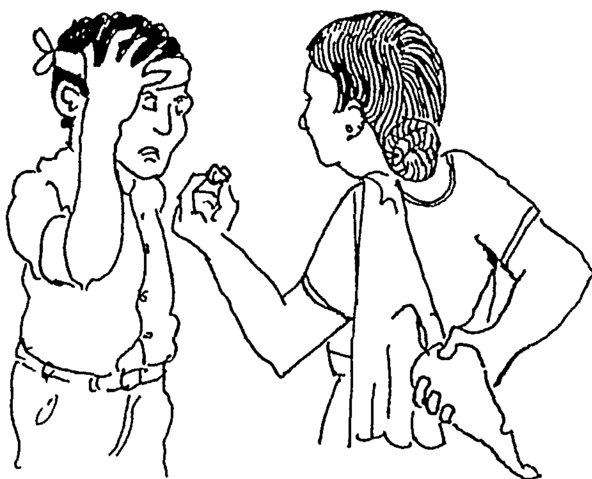
Not many years ago everyone thought that mother's milk was the best food for a young baby They were right! Then the big companies that make canned and artificial milk began to tell mothers that bottle feeding was better This is not true, but many mothers believed them and started to bottle feed their babies As a result, thousands of babies have suffered and died needlessly from infection or hunger For the reasons **breast is best,** see p 317

Respect your people's traditions and build on them.

BELIEFS THAT CAN MAKE PEOPLE WELL

Some home remedies have a direct effect on the body Others seem to work only because people believe in them **The healing power of belief can be very strong.**

For example, I once saw a man who suffered from a very bad headache To cure him, a woman gave him a small piece of yam, or sweet potato She told him it was a strong painkiller He believed her—and the pain went away quickly



Clearly, it was his faith in her treatment, and not the yam itself, that made him feel better

Many home remedies work in this way They help largely because people have faith in them For this reason, they are **especially useful to cure illnesses that are partly in people's minds, or those caused in part by a person's beliefs, worry, or fears.**

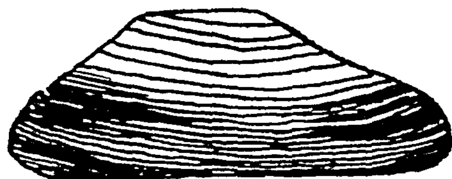
Included in this group of sicknesses are bewitchment or hexing, unreasonable or hysterical fear, uncertain 'aches and pains', anxiety or nervous worry, and some cases of asthma, hiccups, indigestion, stomach ulcers, migraine headaches, and even warts

For all of these problems, **the manner or 'touch' of the healer can be very important.** What it often comes down to is showing you care, helping the sick person believe he will get well, or simply helping him relax

Sometimes a person's belief in a remedy can help with problems that have completely physical causes.

For example Indian villagers have the following home cures for poisonous snakebite.

1. To use snake stone.



2 To eat a handful of chillies or neem leaves.









3 To drink a bucketful of plantain stem juice

In other lands people have their own snakebite remedies—often many different ones As far as we know, **none of these home remedies has any direct effect against snake poison.** The person who says that a home remedy kept a snake's poison from harming him at all was probably bitten by a non-poisonous snake!

Yet any of these home remedies may do some good if a person believes in it. If it makes him less afraid, his pulse will slow down, he will move and tremble less, and as a result, the poison will spread through his body more slowly. So there is less danger!

But the benefit of these home remedies is limited. In spite of their common use, many people still become very ill or die from snakebite. As far as we know:

No home cure for poisonous bites (whether from snakes, scorpions, or other poisonous animals) has much effect beyond that of the healing power of belief.

For snakebite it is usually better to use modern treatment Be prepared: obtain *'antivenins'* or 'serums' for poisonous bites **before** you need them (see p.122). Do not wait until it is too late.

BELIEFS THAT CAN MAKE PEOPLE SICK

The power of belief can help heal people But it can also harm them If a person believes strongly enough that something will hurt him, his own fear can make him sick For example



Once I was called to see a woman who had just had a *miscarriage* and was still bleeding a little There was an orange tree near her house So I suggested she drink a glass of orange juice (Oranges have vitamin C, which helps strengthen blood vessels) She drank it—even though she was afraid it would harm her

Her fear was so great that soon she became very ill I examined her, but could find nothing physically wrong I tried to comfort her, telling her she was not in danger. But she said she was going to die At last I gave her an injection of distilled (completely pure) water Distilled water has no medical effect But since she had great faith in injections, she quickly got better

Actually, the juice did not harm her What harmed her was her **belief that it would make her sick.** And what made her well was her faith in injections!

In this same way, many persons go on believing false ideas about witchcraft, injections, diet, and many other things Much needless suffering is the result

Perhaps, in a way, I had helped this woman But the more I thought about it, the more I realized I had also wronged her, I had led her to believe things that were not true

I wanted to set this right So a few days later, when she was completely well, I went to her home and apologized for what I had done I tried to help her understand that not the orange juice, but her **fear** had made her so sick And that not the injection of water, but her **freedom from fear** had helped her get well

By understanding the truth about the orange, the injection, and the tricks of her own mind, perhaps this woman and her family will become freer from fear and better able to care for their health in the future For **health** is closely related to **understanding** and **freedom from fear.**

Many things do harm only because people believe they are harmful.

WITCHCRAFT—BLACK MAGIC—AND THE EVIL EYE

If a person believes strongly enough that someone has the power to harm him, he may actually become ill. Anyone who believes he is bewitched or has been given the *evil eye* is really the victim of his own fears (see p 31)

A 'witch' has no power over other people, except for her ability to make them believe that she has For this reason

It is impossible to bewitch a person who does not believe in witchcraft.



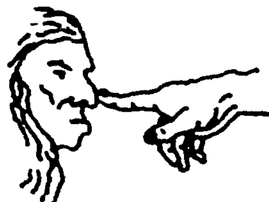
Some people think that they are 'bewitched' when they have strange or frightening illnesses (such as *tumors* of the *genitals* or *cirrhosis* of the liver, see p 374) Such sicknesses have nothing to do with witchcraft or black magic Their causes are natural

Do not waste your money at 'magic centers' that claim to cure witchcraft. And do not seek revenge against a witch, because it will not solve anything. If you are seriously ill, go for medical help.

If you have a strange sickness



do not blame a witch,



do not go to a magic center,



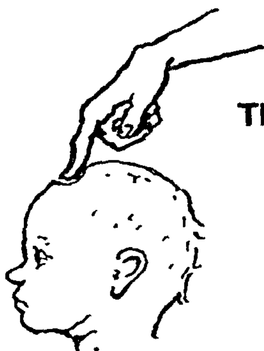
but ask for medical advice



QUESTIONS AND ANSWERS ON SOME FOLK BELIEFS AND HOME REMEDIES

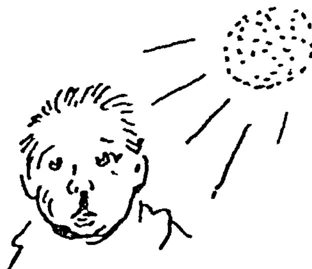
These are examples from different places in India Perhaps some of these beliefs may be common in your area Think about ways to learn which beliefs in your area lead to better health and which do not

Is it true that when a baby has diarrhoea and the 'soft-spot' on top of his head sinks inward, it means the baby will die unless he gets special treatment.



This is often true. The 'soft spot' sinks because the baby has lost too much liquid (see p. 181). Unless he gets more liquid soon, he may die (see p. 182).

Is it true that if the light of the eclipsing moon falls on a pregnant mother, her child will be born deformed or retarded?



This is not true! The light of the eclipsing moon has no effect on a baby in the womb For reasons of deformity and mental retardation see p. 365.

Is it true that mothers should give birth in a darkened room?



It is true that soft light is easier on the eyes of both the mother and the newborn child. But there should be enough light for the midwife to see what she is doing.

Is it true that the watery milk that is produced for the first two days after the baby is born is bad for the baby?



This is not true. This watery milk is called **colostrum** and is very good for the baby. Colostrum has a lot of protein and antibodies which protect the baby against infection.

How many days after giving birth should a mother wait before she bathes?



A mother should wash with warm water the **day after giving birth.** The custom of not bathing for weeks following childbirth can lead to infections

Is it true that traditional breast feeding is better than 'modern' bottle feeding?



TRUE! Breast milk is better food and also helps protect the baby against infection

What foods should women avoid in the first few weeks after childbirth?



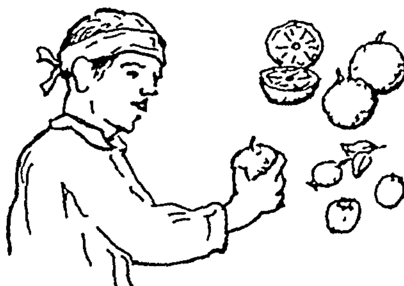
In the weeks following childbirth, women should not avoid any nutritious foods. Instead, they should eat plenty of fruit, vegetables, whole grains, beans, milk, eggs and meat (see p 322)

Is it a good idea to bathe a sick person, or will it do him harm?



It is a good idea Sick people should be bathed in warm water every day

Is it true that oranges, guavas, and other fruits are harmful when one has a cold or a fever?



NO! All fruits and juices are helpful when one has a cold or a fever They do not cause congestion or harm of any kind

Is it true that when a person has a high fever, he should be wrapped up so that the air will not harm him?



NO! When a person has a high fever, take off all covers and clothing Let the air reach his body This will help the fever go down (see p 88)

MEASLES, CHICKEN POX (MATA)

Many places in India, people believe that these diseases are caused because the Goddess is angry with their family or their community The Goddess expresses her anger through these diseases



The people believe that the only hope of cure for these diseases is by giving the goddess offerings in order to please her They do not feed the sick child or care for him because they fear this will annoy the goddess more So **the sick child becomes very weak and either dies or takes a long time to get cured.**

These diseases are caused by extremely small germs called virus (see p 27) It is essential that the child be given plenty of food to keep up his strength so that he can fight the infection **This is more important in the case of smaller children.**

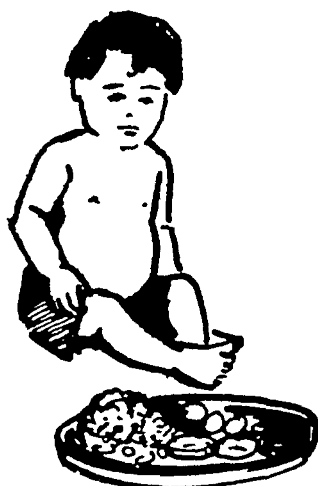
Treatment

Magic cures will not help



Show the child to the health worker immediately





Never restrict food

Give the child plenty of nutritious food and a lot of fluid to drink

Prevent these infections by vaccinating your child.

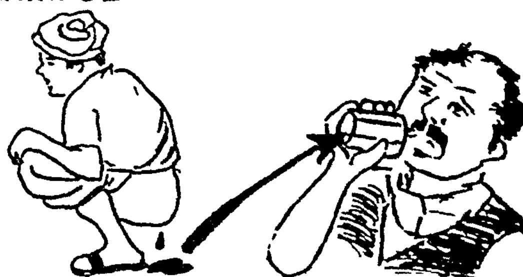
WAYS TO TELL WHETHER A HOME REMEDY WORKS OR NOT

Because a lot of people use a home cure does not necessarily mean that it works well or is safe It is often hard to know which remedies are helpful and which may be harmful Careful study is needed to be sure Here are some rules to help tell which remedies are least likely to work, or are dangerous

1. FOUL AND DISGUSTING REMEDIES ARE NOT LIKELY TO HELP AND ARE OFTEN HARMFUL

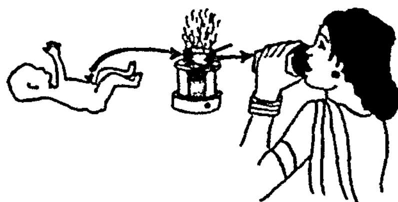
For example

1 The idea that poisoning can be cured by drinking human feces



DON'T

2 The idea that a sterile woman will become pregnant by drinking tea made from the umbilical cord of a newborn baby



DON'T

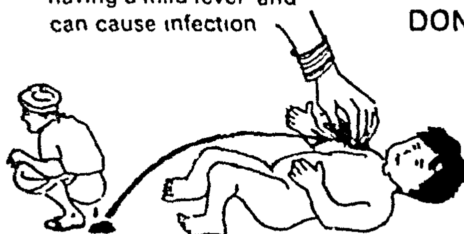
These two remedies do not help at all

2. REMEDIES THAT USE ANIMAL OR HUMAN WASTE DO NO GOOD AND CAN CAUSE DANGEROUS INFECTIONS. NEVER USE THEM.

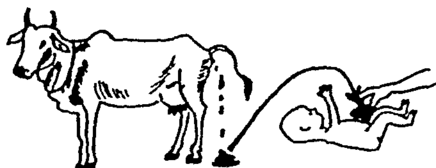
Examples

1 Putting human feces on the area of smallpox vaccination does not prevent the child from having a mild fever and can cause infection

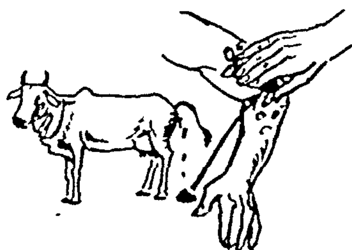
DON'T



2 Smearing cowdung on the newly cut umbilical cord of a baby can cause tetanus



DON'T



DON'T

3 Smearing cowdung on burns does not help in healing the burns it can cause serious infection

3. REMEDIES THAT CAN CAUSE SERIOUS HARM

Examples

1 Giving neem seed oil to children who are having fits can be very harmful

DON'T



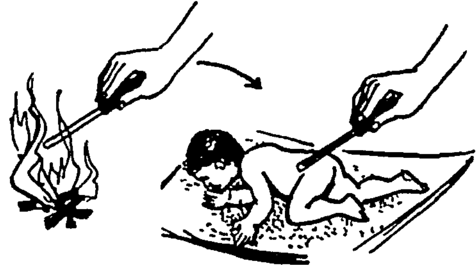
2 Pouring milk into the mouth of unconscious persons to make them conscious

DON'T



3 Branding a newborn baby with a red hot iron to make it cry

DON'T



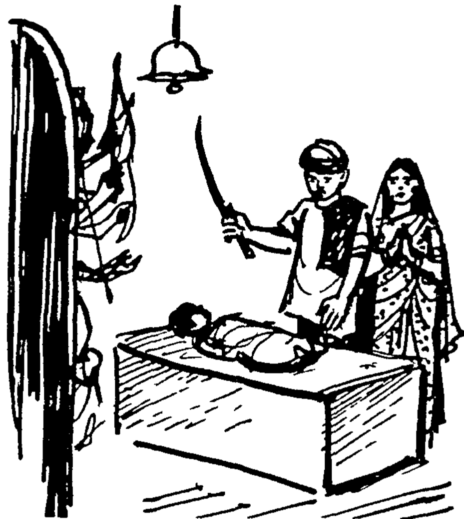
When a person is having fits or is unconscious, do not give him anything by mouth The fluid can go into his lungs and either choke him to death, or can cause pneumonia (p 91)

4. REMEDIES THAT ARE EVIL AND BRING HARM TO OTHERS

Examples

1 The belief that a childless (sterile) married woman will get a child by giving a human sacrifice to the gods

DON'T



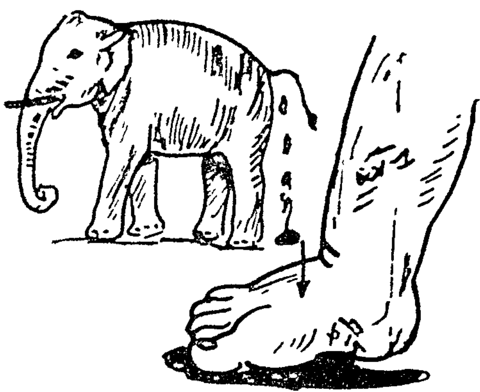
There are many reasons why a husband and wife do not have any children (‘pe288) *Killing another person does not help in anyway*

2 The idea that syphilis can be cured by having sexual contact with a girl who has not yet reached puberty This does **not** cure syphilis The girl most often dies of shock and bleeding If she lives, she may also have syphilis

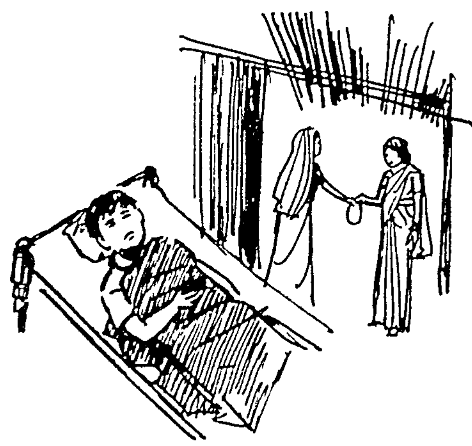
No one is ever helped by harming someone else.

5. THE MORE A REMEDY RESEMBLES THE SICKNESS IT IS SAID TO CURE, THE MORE LIKELY ITS BENEFITS COME ONLY FROM THE POWER OF BELIEF.

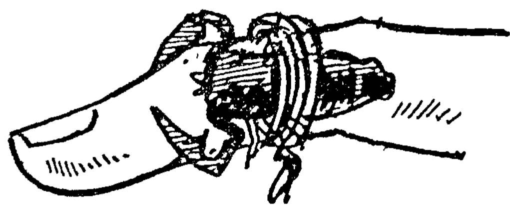
The association between each of the following illnesses and its remedy is clear in these examples



1 For elephantiasis stamping on elephant dung



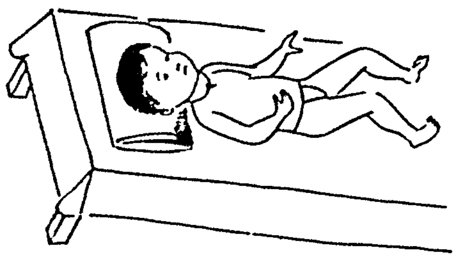
2 For mumps wearing a necklace borrowed from a neighbour



3 For scorpion sting tying the claws of the scorpion on the area of the sting



4 For sore throat smearing a paste of turmeric on the throat



5 For diarrhoea when a child is teething tying a tiger's claw around the neck



6 For jaundice, washing the hands with turmeric powder and water

These remedies and many other similar ones have no curative value in themselves They may be of some benefit if people believe in them But for serious problems, be sure that their use does not delay more effective treatment

SOME HELPFUL HOME CURES

Many plants have curative powers Some of the best modern medicines are made from wild herbs

Nevertheless, not all 'curative herbs' people use have medical value, and those that have are sometimes used in the wrong way Try to learn about the herbs in your area and find out which ones are worthwhile



CAUTION: Some medicinal herbs are very poisonous if taken in more than the recommended dose For this reason it is often safer to use modern medicine, since the dosage is easier to control

The medicinal plants are given in various ways as home cures Here are some examples of home cures that can be useful if used correctly

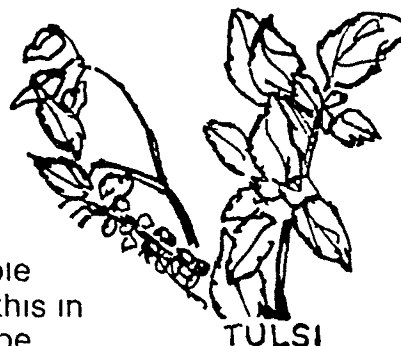
HOME CURES ARE EFFECTIVE ONLY IN MILD DISEASES. ALWAYS TREAT A SERIOUS ILLNESS WITH MODERN MEDICINE.

Cough and cold (see p 200)

If a child has a cough and cold

- crush some 'tulsi' leaves Give one or two drops of this juice three times a day to babies

* Heat two teaspoons of coconut oil Crush one table spoon of camphor (Kapoor or Karpura) Dissolve this in the oil Keep it stored in airtight bottles This can be rubbed on the chest and throat of the child to relieve congestion

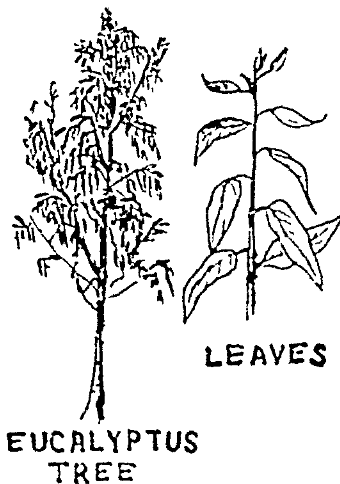


If an adult has cough and cold

- Boil a handful of eucalyptus leaves in two glasses of water, till only one glass is left Strain this water and add sugar Drink this three times a day
- Another effective medicine for cough and cold is Leucus aspera

(Hindi · Guma, Tamil Thumbai)

This is a wild plant with white bellshaped flowers. Boil the leaves in water with a pinch of turmeric powder (haldi) Inhale the steam This helps to relieve congestion To produce more steam, throw red hot stones into the water.



If the cough and cold persists for more than seven days or if the person develops a fever, see pages 205 and 206 for treatment

Sinusitis (see p 202)

- Soak a piece of turmeric in castor oil and burn it Inhale the fumes

  Burn a few pepper corns (Hindi Kali mirchi, Tamil Milagu) Inhale the fumes

- Roast garlic in hot ash and take in three times a day

- Crush a field crab along with the shell Add some water and strain it through a fine cloth Grind together some corriander seeds (Hindi dhania, Tamil Kothamalli) and cummin seeds (jeera), garlic, pepper and salt Add to the juice of the crab Boil and drink this soup hot Then cover yourself with a sheet This is good for cold with a slight fever

- Mix together half a cup of bitter gourd (Hindi karela, Tamil Paharkai)juice, half a lime juice and one tablespoon of honey Drink three times a day

Sore throat (see p .356)

- Mix equal amounts of honey and lime juice One tablespoon every ten minutes is very soothing to the throat

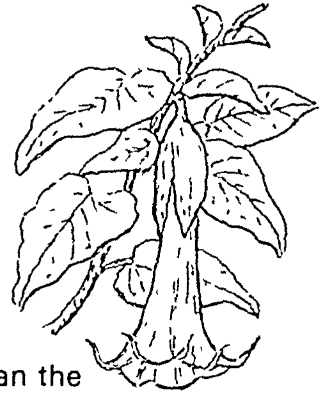
- Boil some water Add the juice of one lime and sugar or salt Take this hot

  Boil milk with a pinch of turmeric powder and drink it hot

- Add a pinch of pepper powder to glass of milk and drink it hot

Intestinal cramps, stomach-aches, and gall-bladder pain (see p 378)

- The leaves of angel's Trumpet (Hindi dhatura)contain a drug that helps calm intestinal cramps, stomach-aches, and even gall bladder pains



- Grind up one or two leaves o Devil's Trumpet and soak them for a day in seven tablespoons (100 ml) of water
- Give adults only between 10 to 15 drops every four hours

WARNING: Angel's Trumpet is very poisonous if you take more than the recommended dose It is safer to use antispasmodic pills when possible (see p 415)

Diarrhoea (see p 181)

If a person has mild diarrhoea without any fever or vomiting or blood in the stools, and no signs of dehydration:

- roast rice till it becomes completely black Crush it Give adults two tablespoons after each loose motion Give children one tablespoon after each loose motion
- Strong black tea without any milk or sugar and with lime juice is effective for mild diarrhoea
- Grind guava leaves to a paste and boil with water Strain and give 2 teaspoons three times a day
- Peel a tender pomegranate and grind it Mix with some curds or buttermilk and give twice a day
- Unripe bananas also help in mild diarrhoea

If mild diarrhoea is accompanied with blood or mucus without any signs of dehydration:



- Take the white sap from a banyan tree and mix with some water Give an adult two teaspoons and a child one teaspoon after each loose motion

If diarrhoea is accompanied by vomiting:

- roast some cummin seeds (jeera), add the juice of one lime and some salt Drink this three times a day

GIVE REHYDRATION DRINK (p. 182) TO ALL PERSONS HAVING DIARRHOEA

Vomiting in pregnancy (see p 294)

- Powder 6-7 cloves (laung) and soak in a glass of water for half an hour. Strain and drink this water

Fresh cuts and wounds (see p 97)

- Wash the cut well with clean water Wash a piece of fresh ginger and grind it with some sugar Apply on the cut, and bandage it with a clean cloth Do not remove the bandage till the cut has completely healed and the ginger comes off on its own. Keep the bandage completely dry

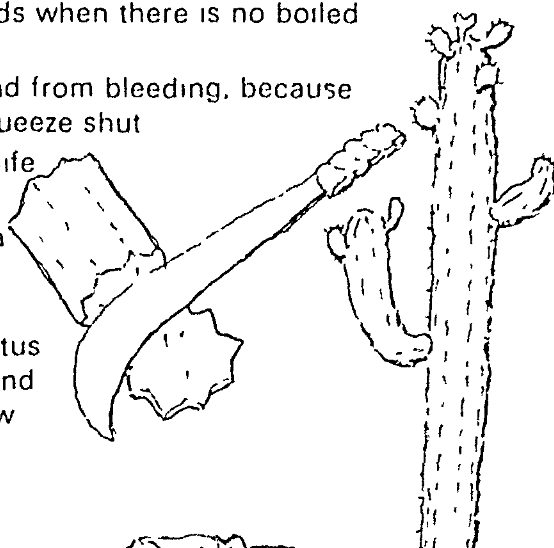
- Cactus juice can be used to clean wounds when there is no boiled water and no way to get any

  Cardon cactus also helps to stop a wound from bleeding, because the juice makes the cut blood vessels squeeze shut

  Cut a piece of the cactus with a clean knife and press it firmly against the wound

  When the bleeding is under control tie a piece of the cactus to the wound with a strip of cloth

  After two or three hours take off the cactus and clean the wound with boiled water and soap There are more instructions on how to care for wounds and control bleeding on pages 95 to 106



Clean ulcer

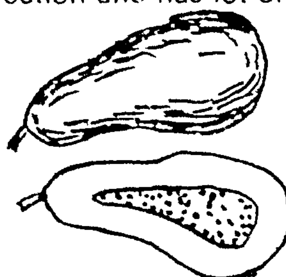
When an ulcer is clean without any pus boil some ink nuts (Hindi Zangihar Balhar kalepar Tamil Kadukai) in water Strain the water and wash the ulcer with it

Then rub the nut on a stone Apply the paste on the ulcer Keep the ulcer clean



.Old ulcers and wounds (see p 101)

When an ulcer or a wound is not treated it gets infection and has lot of pus



- Cut a green papaya Scoop out the inside pulp and apply on the ulcer Wash it off the next day and apply papaya pulp again Continue till the ulcer becomes clean Then treat as for clean ulcer (see above)with ink nut **This is very effective in the case of leprous ulcers.**

- The sap from the banyan tree is also good for cleaning ulcers, with pus This sap can also be used for cracked heels

  An ulcer which is clean will heal without any antiseptic.

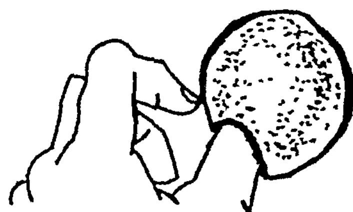
- In a teaspoon of curd, rub a crystal of copper sulphate (Neela Thotha) till the curd is pale blue Add a little clean soot from the bottom of a cooking pan Apply to the ulcer This helps to keep the flies away Do not wash When the ulcer heals the black

Diabetic Ulcers

Roast a brinjal Mix with camphor (kapoor, karpura) and apply to the ulcer The ulcer will heal Follow the diet for diabetes (see p 149)



Pus under the Nails (Paronychia)



- Make a hole in a ripe yellow lime Keep your finger in this till the pus disappears

Boils and abscesses (see p 244)

When a boil is painful,

- apply a paste made of soap and turmeric powder Turmeric powder is antiseptic The boil will burst fast and will heal quickly
- Apply castor oil on the boil Cook some rice flour with turmeric powder and apply this on the boil Tie with a clean rag The boil will burst within 12 hours

After the boil bursts treat it like an ulcer with pus (see above)

Ulcer in the Mouth or Tongue (see p 276)

Ulcers in the mouth or tongue are often caused by not eating the right kind of food (malnutrition) These ulcers are painful and the person does not feel like eating This leads to more malnutrition

These ulcers can be made less painful, so that the person can eat his food properly Only proper nutrition can cure these ulcers completely

The following remedies help in making the ulcer less painful, by forming a protective coat on the ulcer

- Grind the bark of a banyan tree Put this juice on the ulcer
- The sap of the banyan tree can also be applied on the ulcer to make it less painful
- Chew some guava leaves before eating These leaves have pectin in them, and this coats the ulcer, making it less painful
- Apply the paste of ink nut on the ulcer

Stomach Ulcer and Heart Burn (see p 149)

- Soak some cooked rice in water for one night In the morning add two teaspoons of fenugreek (Hindi methi, Tamil Vendayam) seeds to the soaked rice and eat it on an empty stomach (before breakfast)
- Fresh ash gourd (Hindi Petha, Tamil Chambal Pusanikai) juice taken every morning helps in relieving stomach burn
- Dilute plantain stem juice with water and drink it three times a day The juice is alkaline and neutralizes the acids in the stomach



- *To make an antacid solution add a pinch of baking soda to a glass of water and drink this

Fungus Infections of the Skin Tinea circinata.(see p 246)

Take the leaves of Cassia Alata Tamil Seemai agathi) and grind it Apply the juice three times a day



Chicken pox blisters (see p358)

- Spread neem leaves on the bed of the sick person Neem leaves are cooling and antiseptic They will help relieve itching

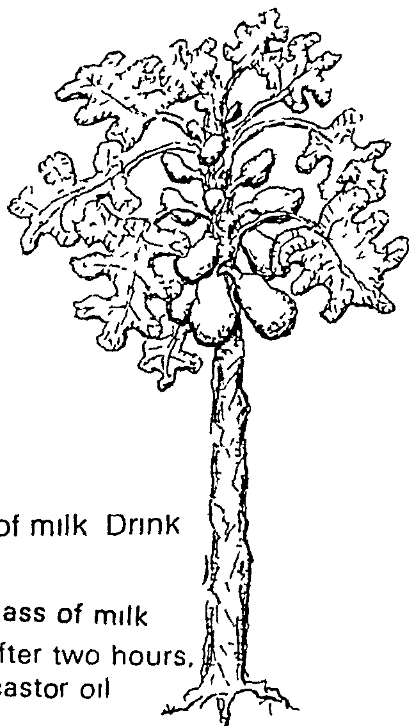


- Boil neem leaves in water Bathe the sick person with this water A daily bath is good

Scorpion sting (see p 123)

- Cut a piece of onion and rub it on the site of the sting This helps to relieve pain
- Grind up a small pinch of potassium permanganate with equal amount of citric acid (If you cannot get citric acid powder, you can use one drop of lime juice) Collect the powder into a paper and spread it over the **exact** site of the sting Add a single drop of water It will begin to bubble vigourously and will become very hot This usually gives immediate total or partial relief

WARNING: Tender skin may get badly burnt or blistered **Spread the powder only on the exact site of the sting.**



Worms (p 193)

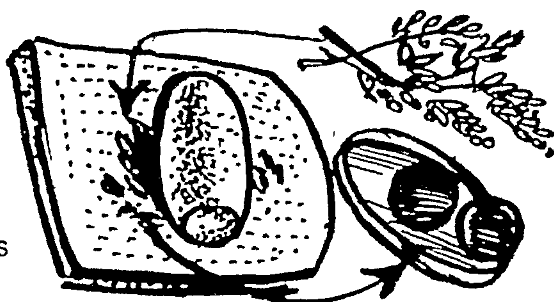
- Papaya can help get rid of intestinal worms, although modern medicines often work better
- Collect 3 or 4 Teaspoons (15-20 ml) of the milk that comes out when the green fruit or trunk of the tree is cut Mix this with an equal amount of honey and stir into a cup of hot water If possible, drink along with a laxative

Roundworms (see p 193)

- Crush two papaya seeds and mix it with a glass of milk Drink this Do the same the next day also
- Crush some pomegranate leaves, and boil with a glass of milk Drink half of it early in the morning before eating After two hours, drink the rest of the milk Give two tablespoons of castor oil after another two hours

Do not give the person anything to eat before and during the treatment

Threadworms (see p 194)



- Grind neem leaves to a fine paste For one week,take a marble sized ball of this paste every morning on an empty stomach Do not take this for the second week For the third week, take the neem leaves again as before on an empty stomach

The whole family should take this treatment together for curing threadworms

Tapeworms (see p 196)

- Grind one betel nut with a small glass of milk Take this early in the morning on an empty stomach
- Take a handful of ash gourd seeds and grind it Eat it in the morning on an empty stomach Two hours later, take two teaspoons of castor oil
- Dissolve a small piece of asafoetida (Hindi heeng, Tamil kayam) in water and drink it on an empty stomach

Jaundice-Hepatitis (see p 209)

- Phyllanthus niruri (Hindi Bhvin Amla, Tamil keela nelli)

  This is a small wild plant The leaves have small berries under them

  Treatment. Take a whole plant and grind it Eat this paste early in the morning on an empty stomach

  This does not cure jaundice But this helps to stop vomiting, and the sick person can eat his food



- Eclipta prostata (Hindi bungran, Tamil Karisilankanni)

  The leaves of this plant can be cooked and eaten once a day

  Boil a handful of the leaves along with one spoon of castor oil and a little garlic and give this to the sick person

  This also helps to reduce vomiting The stools and urine become normal coloured

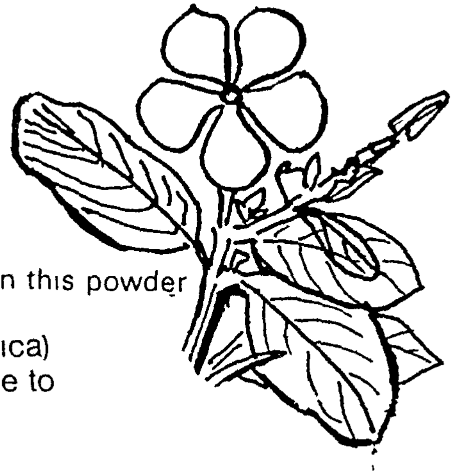
- Take 2-3 castor leaves and grind them Give the sick person a marble sized ball of paste every morning This also helps reduce vomiting

High Blood pressure (see p 147)

- Crush and take one teaspoon of the juice of yellow drumstick leaves after food

- Mix one teaspoon ginger juice, one teaspoon honey and one teaspoon powdered cummin seeds Take this once a day
- Curds, raw onion, garlic and turmeric powder are also good for reducing high blood pressure

Diabetes (see p 149)



- Periwinkle with mauve flowers Take the plant with its roots and boil it in some water Strain and drink it before eating anything
- Dry and powder jamun seeds Pour hot water on this powder Strain and drink the water
- Pull out an entire touch-me-not (mimosa pudica) plant with its roots, grind it, or cook it with rice to form conji Drink this every day

Neem leaves and bitter gourd also help in reducing diabetes

Asthma (see p 204)

Boil the leaves of malabar nut (Hindi Arusa, Tamil adathodai) Roll it up in another leaf of the same and smoke it

Dandruff (see p 257)

Apply curd or lime juice or the paste of neem leaves to the hair and scalp Leave it for one hour Wash well Do this once a week

Toothache (see p 275)

- Chew one or two cloves, and let the juice remain in the mouth for some time
- Chew one or two cashew leaves and let the juice remain in the mouth
- Toothpowder made of burnt mango leaves also helps in reducing toothache

These remedies will help reduce the pain for some time These remedies will not cure the problem Consult the health worker to find out if the tooth needs to be filled or removed

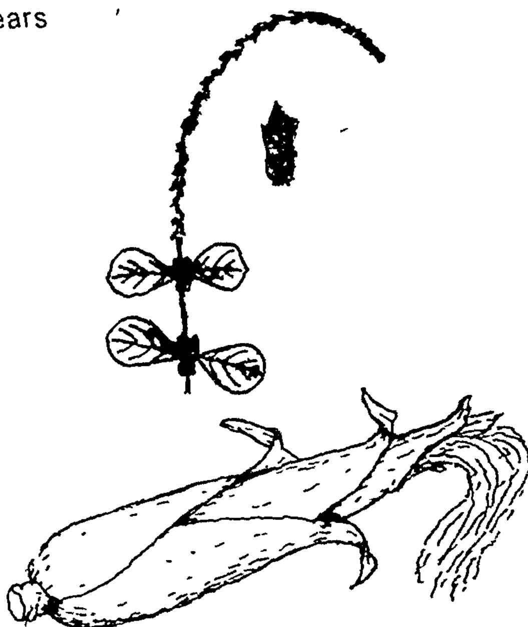
Pain during Menstruation (see p 291)

Grind the leaves of bitter gourd with some pepper and garlic Take this once a day for three days

Swelling of Feet during pregnancy (see p 294)

To reduce swelling.

- Boil some palm sugar and fennel (Hindi saunf) together Strain and drink three times a day till the swelling disappears



- Boil leaves of prickly chaff, (Hindi Chirchira) and take it in the morning The woman will pass more urine, and this will help to reduce the swelling of the feet

- Sometimes decoctions made from corn silk (the tassels or "silk" from the ear of maize can help to reduce swelling of feet Boil a large handful of corn silk in water. Drink 1-2 glasses This is not dangerous.

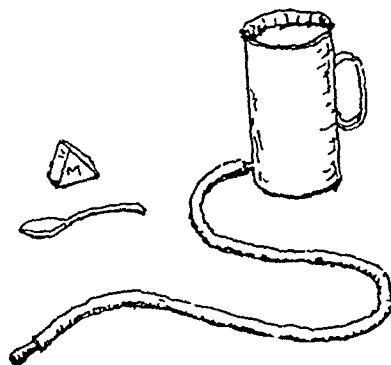
False labour pains (see p 304)

- Boil drumstick leaves with corriander seeds (Hindi Suka dhania, Tamil Kotthamalli) Take about one glass If the contractions are false, the pain will disappear

- Powder the bark of cinnamon (dalchini) and take some with water or milk

ENEMAS, LAXATIVES, AND PURGES: WHEN TO USE THEM AND WHEN NOT TO

Many people give enemas and take laxatives far too often The 'urge to purge' is world wide



Enemas and purges are very popular home cures And they are often very harmful Many people believe fever and diarrhea can be 'washed out' by giving an **enema** (running water into the gut through the anus) or by using a *purge*, or strong laxative Unfortunately, such efforts to clean or purge the sick body often cause more injury to the already damaged gut

Rarely do enemas or laxatives do any good at all. Often they are dangerous—especially strong laxatives.

CASES IN WHICH IT IS DANGEROUS TO USE ENEMAS OR LAXATIVES:

Never use an enema or laxative if a person has a severe stomach-ache or any other sign of appendicitis or 'acute abdomen' (p 106) even if he passes days without a bowel movement

Never give an enema or laxative to a person with a bullet wound or other injury to the gut

Never give a strong laxative to a weak or sick person It will weaken him more.

Never give a laxative or purge to a child with high fever, vomiting, diarrhea, or signs of dehydration (see p 181)

Do not make a habit of using laxatives often (see Constipation, p 151)

THE CORRECT USES OF ENEMAS

1 Simple enemas can help relieve constipation (dry, hard, difficult stools) Use warm water only, or water with a little soap in it.

2 When a person with vomiting is dehydrated, you can try giving an enema of Rehydration Drink **very slowly** (see p 182)

PURGES AND LAXATIVES THAT ARE OFTEN USED:

SENNA LEAF CASCARA (cascara sagrada)	These are irritating purges that often do more harm than good It is better not to use them
CASTOR OIL	This will do good if only little is taken where suggested
MAGNESIUM CARBONATE MILK OF MAGNESIA EPSOM SALTS (magnesium sulfate) (see p **417**)	These are salt purges Use them only in low doses, as laxatives for constipation Do not use them often and **never when there is pain in the belly.**
MINERAL OIL (see p **417**)	This is sometimes used for constipation in persons with piles but it is like passing greased rocks Not recommended

CORRECT USES OF LAXATIVES AND PURGES.

Laxatives are like purges but weaker All the products listed above are laxatives when taken in small doses and purges when taken in large doses Laxatives soften and hurry the bowel movement, purges cause diarrhea

Purges: The only time a person should use a strong dose of a purge is when he has taken a poison and must clean it out quickly (see p 118) At any other time a purge is harmful

Laxatives: You can use milk of magnesia or other magnesium salts in small doses, as laxatives, in some cases of constipation People with *hemorrhoids* (piles) who have constipation can take mineral oil but this only makes their stools slippery, not soft The dose for mineral oil is 3 to 6 teaspoons at bedtime (never with a meal because the oil will rob the body of important vitamins in the food) This is not the best way

A BETTER WAY:

Foods with fiber. The healthiest and most gentle way to have softer, more frequent stools is to eat more foods with lots of natural fiber, or 'roughage' like **tapioca, grain, cereals, fruits and vegetables Drinking lots of water also helps.**

People whose tradition it is to eat lots of food with natural fiber suffer much less from piles, constipation, and cancer of the gut than do people who eat a lot of refined 'modern' foods For better bowel habits, avoid refined foods and eat foods prepared from unpolished or unrefined grains

CHAPTER

2 SICKNESSES THAT ARE OFTEN CONFUSED

WHAT CAUSES SICKNESS?

Persons from different countries or backgrounds have different ways to explain what causes sickness

A baby gets diarrhea But why?



People in small villages may say it is because the parents did something wrong, or perhaps because they made a god or spirit angry

A doctor may say it is because the child has an infection

A public health officer may say it is because the villagers do not have a good water system or use latrines

A social reformer may say the unhealthy conditions that lead to frequent childhood diarrhea are caused by an unfair distribution of land and wealth

A teacher may place the blame on lack of education

People see the cause of sickness in terms of their own experience and point of view Who then is right about the cause? Possibly everyone is right, or partly right This is because

Sickness usually results from a combination of causes.



"Why my child?"

Each of the causes suggested above may be a part of the reason why a baby gets diarrhea

To prevent and treat sickness successfully, it helps to have as full an understanding as possible about the common sicknesses in your area and the combination of things that causes them

In this book, different sicknesses are discussed mostly according to the systems and terms of modern or scientific medicine

To make good use of this book, and safe use of the medicines it recommends , you will need some understanding of sicknesses and their causes according to medical science. Reading this chapter may help

DIFFERENT KINDS OF SICKNESSES AND THEIR CAUSES

When considering how to prevent or treat different sicknesses, it helps to think of them in two groups infectious and non-infectious

Infectious diseases are those that spread from one person to another Healthy persons must be protected from people with these sicknesses

Non-infectious diseases do not spread from person to person They have other causes Therefore, it is important to know which sicknesses are infectious and which are not

Non-infectious Diseases

Non-infectious diseases have many different causes But they are never caused by germs, bacteria, or other living organisms that attack the body They never spread from one person to another It is important to realize that *antibiotics,* or medicines that fight germs (see p 67), do not help cure non-infectious diseases

> *Remember·* **Antibiotics are of no use for non-infectious diseases.**

EXAMPLES OF NON-INFECTIOUS DISEASES

Problems caused by something that wears out or goes wrong within the body	Problems caused by something from outside that harms or troubles the body	Problems caused by a lack of something the body needs
rheumatism	allergies	malnutrition
heart attack	asthma	pellagra
epileptic fits	poisons	anemia
stroke	snakebite	goiter
migraines	cough from smoking	cirrhosis of the liver (part of the cause)
cataract	stomach ulcer	
cancer	alcoholism	

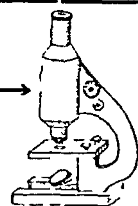
Problems people are born with		Problems that begin in the mind (mental 'illnesses')
harelip	epilepsy (some kinds)	fear that something is harmful when it is not (paranoia)
crossed or wall-eyes	retarded (backward) children	nervous worry (anxiety)
other deformities	birthmarks	belief in hexes (witchcraft)
		uncontrolled fear

Infectious Diseases

Infectious diseases are caused by bacteria and other *organisms* (living things) that harm the body They are spread in many ways Here are some of the most important kinds of organisms that cause infections and examples of sicknesses they cause

EXAMPLES OF INFECTIOUS DISEASES

Organism that causes the sickness	Name of the sickness	How it is spread or enters the body	Principal medicine
bacteria (microbes or germs)	tuberculosis	through the air (coughing)	antibiotics
	tetanus	dirty wounds	
	some diarrhea	dirty fingers, water, flies	
	pneumonia (some kinds)	through the air (coughing)	
	gonorrhea and syphilis	sexual contact	
	earache	with a cold	
	infected wounds	contact with dirty things	
	sores with pus	direct contact (by touch)	
virus (germs smaller than bacteria)	colds, flu, measles, mumps, chickenpox, infantile paralysis, virus diarrhea	from someone who is sick, through the air, by coughing, flies, etc	aspirin and other painkillers (There are no medicines that fight viruses effectively Antibiotics do not help) Vaccinations help prevent some virus infections
	rabies	animal bites	
	warts	touch	
fungus	ringworm athlete's foot jock itch	by touch or from clothing	sulfur and vinegar ointments undecylenic, benzoic, salicylic acid griseofulvin
internal parasites (harmful animals living in the body)	In the gut worms amebas (dysentery)	feces-to-mouth lack of cleanliness	different specific medicines
	In the blood malaria Elephantiasis	mosquito bite	chloroquine Diethyl carbamazine (Hetrazan)
external parasites (harmful animals living on the body)	lice fleas bedbugs scabies	by contact with infected people or their clothes	insecticides, lindane

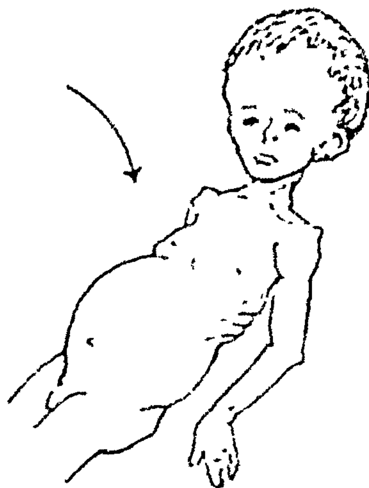


Bacteria, like many of the organisms that cause infections, are so small you cannot see them without a microscope—an instrument → that makes tiny things look bigger Viruses are even smaller than bacteria

Antibiotics (penicillin, tetracycline, etc) are medicines that help cure certain illnesses caused by bacteria **Antibiotics have no effect on illnesses caused by viruses,** such as colds, flu, mumps, chickenpox, etc **Do not treat virus infections with antibiotics.** They will not help and may be harmful (see **Antibiotics,** p 69)

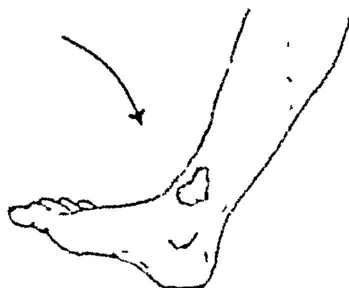
SICKNESSES THAT ARE HARD TO TELL APART

Sometimes diseases that have different causes and require different treatment result in problems that look very much alike For example



1 **A child who slowly becomes thin and wasted, while his belly gets more and more swollen, could have any (or several) of the following problems:**

- malnutrition (see p 132)
- a 'heavy' roundworm infection, p 193, (usually together with malnutrition)
- advanced tuberculosis (p 219)
- a long term severe urinary infection (p 278)
- any of several problems of the liver or spleen
- leukemia (cancer of the blood)



2 **An older person with a big, open, slowly *growing sore on the ankle could have:***

- bad circulation that results from varicose veins or other causes (p 254)
- diabetes (p 149)
- infection of the bone (osteomyelitis)
- leprosy (p 232)
- tuberculosis of the skin (p 253)
- advanced syphilis (p 281)

The medical treatment for each of these diseases is different, so to treat them correctly it is important to tell them apart

Many illnesses at first seem very similar But if you ask the right questions and know what to look for, you can often learn information and see certain signs that will help tell you what illness a person has

This book describes the typical history and signs for many illnesses But be careful! Diseases do not always show the signs described for them—or the signs may be confusing **For difficult cases, the help of a skilled health worker or doctor is often needed.** Sometimes special tests or analyses are necessary

> **Work within your limits!**
> **In using this book, remember it is easy to make mistakes.**
> **Never pretend you know something you do not.**
> **If you are not fairly sure what an illness is and how to treat it, or if the illness is very serious—get medical help.**

SICKNESSES THAT ARE OFTEN CONFUSED OR GIVEN THE SAME NAME

Many of the common names people use for their sicknesses were first used long before anyone knew about germs or bacteria or the medicines that fight them Different diseases that caused more or less similar problems—such as 'high fever' or 'pain in the side'—were often given a single name In many parts of the world, these common names are still used City-trained doctors often neither know nor use these names For this reason, people sometimes think they apply to 'sicknesses doctors do not treat' So they treat these **home sicknesses** with herbs or home remedies

Actually, most of these home sicknesses or 'folk diseases' are the same ones known to medical science Only the names are different

For many sicknesses, home remedies work well. But for some sicknesses, treatment with modern medicine works much better and may be life-saving. This is especially true for dangerous infections like pneumonia, typhoid, tuberculosis, **diseases spread by sexual contact, or infections after giving birth**

To know which sicknesses definitely require modern medicines and to decide what medicine to use, it is important that you try to **find out what the disease is in the terms used by trained health workers and in this book**

If you cannot find the sickness you are looking for in this book, look for it under a different name or in the chapter that covers the same sort of problem. Use the list of CONTENTS and the INDEX.

If you are unsure what the sickness is—especially if it seems serious—try to get medical help

The rest of this chapter gives examples of common or *traditional* names people use for various sicknesses Often a single name is given to diseases that are different according to medical science

EXAMPLES OF LOCAL NAMES FOR SICKNESSES

1 ***DAURA* (convulsions, fits, sudden breathlessness, sudden pain)**

In the northern part of India any attack of fits or unconsciousness is termed *Daura* Sometimes if a person has a sudden attack of breathlessness, palpitations or pain, these are also called *Daura* This leads to confusion because these signs are caused by different illness and do not form just one disease

Different illnesses that are sometimes called ***DAURA*** are·

- Illnesses that cause fits or paralysis· see fits (p 216) tetanus (p.222) meningitis (see p 225) stroke (p 373)
- Sudden or severe difficulty in breathing· caused by asthma (p. 204). or heart disease (p 371).
- Heart attacks mostly in older person (p. 371)
- Sudden pain on the side of the belly due to gall bladder stones (p 375).

2 *PITHAM*

In many villages in the southern part of India people believe that many diseases are caused by eating certain foods which contain substance called ***PITHAM.*** It is said that ***PITHAM*** strikes persons who break 'the diet' (p 145) , by eating foods that are forbidden or taboo after childbirth or while taking a medicine. Some of the foods that are supposed to have ***PITHAM*** in them are brinjal, dry fish, groundnut and cooking oil Although **these foods cause no harm** and are sometimes just what their bodies need, many people will not touch them because they are so afraid of getting PITHAM

Different illnesses that are sometimes called PITHAM are

- Any sudden upset of the stomach or gut see diarrhoea (p 184) vomiting (p 192) and acute abdomen (p 107)
- Nausea diarrhoea with vomiting (p 188) vomiting in pregnancy (p 294), Jaundice (p 374)
- Sudden attack of giddiness specially in the morning hypertension (p 147)
- Acid indigestion and heart burn as in hyperacidity
- Painful swelling in the joints as in rheumatic arthritis (p 211)

3 HYSTERIA (fright)

Indian villagers think that hysteria is caused by a sudden fright a person has had, or by witchcraft, black magic, or evil spirits A person with hysteria is very nervous and afraid. He may shake, behave strangely, not be able to sleep, lose weight, or even die

Possible medical explanations for hysteria are:

1. In many people, hysteria is a state of fear, perhaps caused by the 'power of belief, (see p 2) For example, a woman who is afraid that someone will cast an evil spell on her becomes nervous and does not eat or sleep well She begins to grow weak and lose weight. She takes this as a sign that the spell has been cast, so she becomes still more nervous and frightened. Her hysteria gets worse and worse.
2. In babies or small children, hysteria is usually very different. Bad dreams may cause a child to cry out in his sleep or wake up frightened. High fevers from any illness can cause very strange speech and behaviour (delirium) A child that often looks and acts worried may be malnourished (p 125) Sometimes early signs of tetanus (p. 222) or meningitis (p. 353) are also called hysteria

Treatment:

When the hysteria is caused by a specific illness treat the illness Help the person understand its cause. Ask for medical advice, if needed.

When the hysteria is caused by fright, try to comfort the person and help him understand that his fear itself is the cause of his problem. Magic cures and home remedies sometimes help.

If the frightened person is breathing very hard and fast, his body may be getting too much air (Oxygen) — which may be part of the problem·

EXTREME FRIGHT OR HYSTERIA WITH FAST HEAVY BREATHING (HYPERVENTILATION)

Signs:



- person very frightened
- breathing fast and deep
- fast, pounding heartbeat
- numbness or tingling of face, hands or feet
- muscle cramps

Treatment:

- keep the person as quiet as possible
- have him put his face in a paper bag and breathe slowly He should continue breathing the same air for two or three minutes This will usually calm him down.
- Explain to him that the problem is not dangerous, and he will soon be all right

CONFUSION BETWEEN DIFFERENT ILLNESSES THAT CAUSE FEVER

BUKHAR (THE FEVER) Name in your area ....

Correctly speaking a fever is a **body temperature higher than normal** But in India, a number of serious illnesses that cause high temperatures are all called 'the fever'

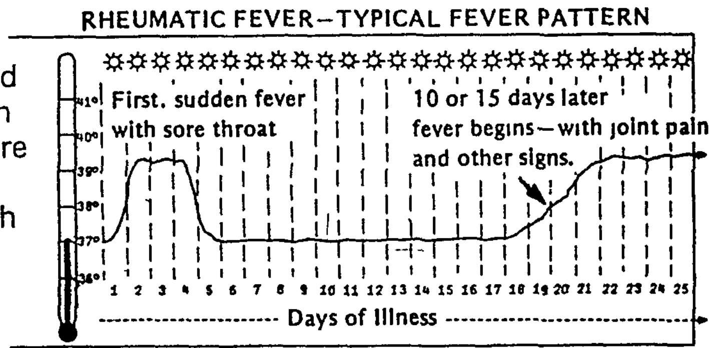


To prevent or treat these diseases successfully, it is important to know how to tell one from another

Here are some of the important acute illnesses in which fever is an outstanding sign The drawings show the **fever pattern** (rise and fall of temperature) that is typical for each disease

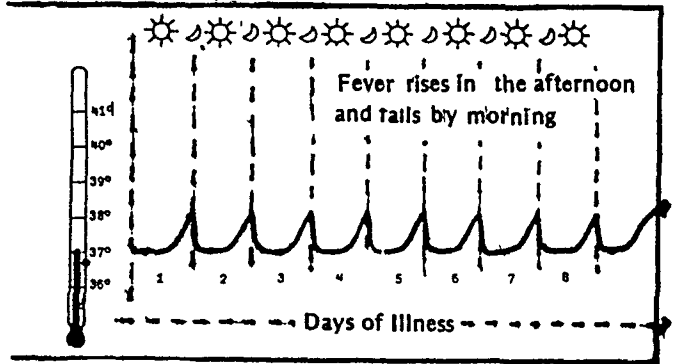
Rheumatic fever: **(see p.356)**

Most common in children and teenagers Pain in joints High fever Often comes after a sore throat May be pain in the chest with shortness of breath Or uncontrolled movements of arms and legs



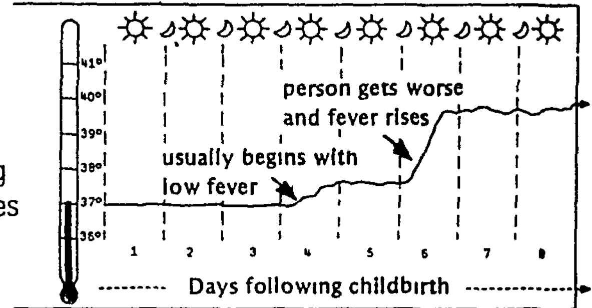
Tuberculosis : **(see p.219)**

Begins slowly with tiredness, loss of weight and cough Fever in the evening In the morning temperature goes down May be sweating at night This may go on for months



Childbirth fever: **(see p.322)**

Begins a day or more after giving birth Starts with a slight fever, which often rises later Foul-smelling vaginal *discharge* Pain and sometimes bleeding from vagina



All of these illnesses can be dangerous. In addition to those shown here, there are many other diseases (especially in *tropical* countries) that may cause similar signs and fevers These illnesses are not always easy to tell apart Most are serious or dangerous When possible—seek medical help

CHAPTER

3

How to Examine a Sick Person

To find out the needs of a sick person, first you must ask important questions and then examine him carefully You should look for *signs* and *symptoms* that help you tell how ill tne person is and what kind of sickness he may have

There are certain basic things to ask and to look for in anyone who is sick These include things the sick person feels or reports (symptoms), as well as things **you** notice on examining him (signs) These signs can be especially important in babies and persons unable to talk In this book the word 'signs' is used for both symptoms and signs

Always examine the person where there is good light, preferably in the sunlight **never** in a dark room

When you examine a sick person, write down your findings and keep them for the health worker in case he is needed

QUESTIONS

Let the sick person tell about his complaints in his own words When he has finished, you can ask him questions to find out more information about his sickness Be sure to ask the following:



What bothers you most right now?
What makes you feel better or worse?
How and when did your sickness begin?
Have you had this same trouble before, or has anyone else in your family or neighborhood had it?

Continue with other questions in order to learn the details of the illness

For example, if the sick person has a pain, ask him

Where does it hurt? (Ask him to point to the exact place with one finger)
Does it hurt all the time, or off and on?
What is the pain like? (sharp? dull? burning?)
Can you sleep with the pain?

If the sick person is a baby who still does not talk, look for signs of pain Notice his movements and how he cries (For example, a child with an earache sometimes rubs the side of his head or pulls at his ear)

GENERAL CONDITION OF HEALTH

Before touching the sick person, look at him carefully. Observe how ill or weak he looks, the way he moves, how he breathes, and how clear his mind seems Look for signs of dehydration (see p 181) and of shock (p 89)

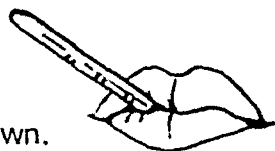
Notice whether the person looks well nourished or poorly nourished Has he been losing weight? When a person has lost weight slowly over a long period of time, he may have a *chronic illness* (one that lasts a long time).

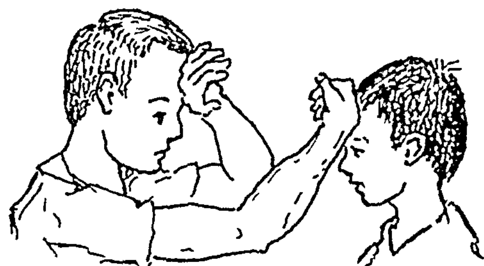
Also note the color of the skin and eyes:

- Paleness, especially of the lips and inside the eyelids, is a sign of anemia (p 146).
- Bluish skin, especially blueness or darkness of the lips and fingernails, may mean serious problems with breathing (p. 91 and 204) or with the heart (p 371)
- A grayish-white coloring, with cool, moist skin, often means a person is in shock (p. 89).
- Yellow color (*jaundice*) of the skin and eyes may result from disease in the liver, hepatitis (p 209) or cirrhosis (p 374) or amebic abscess (p 198) or gall-bladder (p 375) It may also occur in new born babies (p 320)

TEMPERATURE

It is often wise to take a sick person's temperature, even if he does not seem to have a fever. If the person is very sick, take the temperature at least 4 times each day and write it down.





If there is no thermometer, you can get an idea of the temperature by putting the back of one hand on the sick person's forehead and the other on your own or that of another healthy person If the sick person has a fever, you should feel the difference

It is important to find out when and how the fever comes, how long it lasts, and how it goes away. This may help you identify the disease. For example.

- Malaria usually causes attacks of a high fever that begin with chills, last a few hours, and come back every 2 or 3 days (p 227).
- Typhoid causes a fever that rises a little more every day (p 229)
- Tuberculosis sometimes causes a mild fever in the afternoon At night the person often sweats, and the fever goes down (p 219)

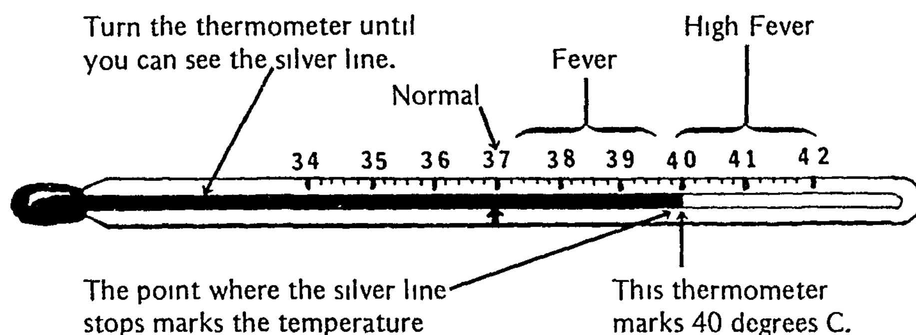
Note: In newborn babies a temperature that is unusually high **or unusually low** (below 36°) may mean a serious infection (see p 321)

- To learn about other fever patterns, see p 32 to 33.
- To learn how to use a thermometer, see the next page
- To learn what to do for a fever, see p 87

How to Use a Thermometer

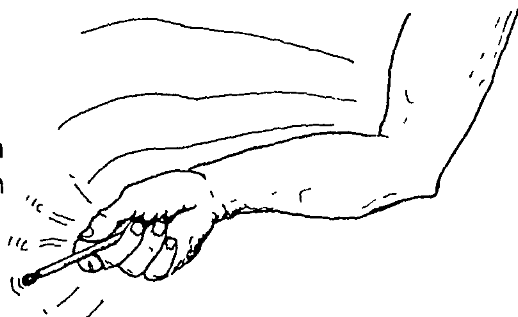
Every family should have a thermometer Take the temperature of a sick person 4 times a day and always write it down

How to read the thermometer (using one marked in degrees *centigrade*—°C)



How to take the temperature:

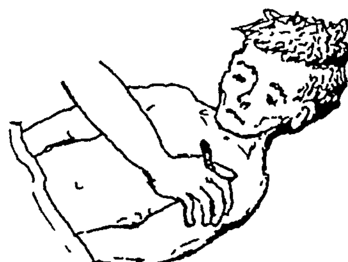
1 Clean the thermometer well with soap and water or alcohol Shake it hard, with a snap of the wrist until it reads less than 36 degrees

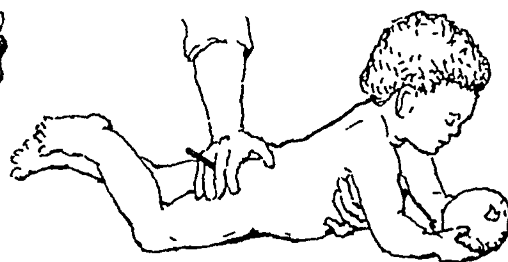


2 Put the thermometer

under the tongue (keeping the mouth shut) or in the armpit if there is danger of biting the thermometer or carefully, in the anus of a small child (wet or grease it first)







If the sick person is unconscious, put the thermometer in the armpit or anus

3 Leave it there for 2 minutes

4 Read it (An armpit temperature will read a little lower than a mouth reading, in the anus it will read a little higher)

5 Wash the thermometer well with soap and water

BREATHING (RESPIRATION)

Pay special attention to the way the sick person breathes—the depth (deep or shallow), rate (how often breaths are taken), and difficulty Notice if both sides of the chest move equally when he breathes

If you have a watch or simple timer, count the number of breaths per minute. Between 12 and 20 breaths per minute is normal for adults and older children Up to 30 breaths a minute is normal for children, and 40 for babies People with a high fever or serious respiratory illnesses (like pneumonia) breathe more quickly than normal More than 40 **shallow** breaths a minute usually means pneumonia

If you do not have a watch to count the respiration, you can use your pulse rate to count the respiration of the sick person

If the person takes one breath for every four beats of your pulse, then it is normal rate It he takes one breath for every two or three of your pulse then it means he is breathing faster than normal

Listen carefully to the sound of the breaths For example

A whistle or wheeze and difficulty in breathing out can mean asthma (p 204)

A gurgling or snoring noise and difficult breathing in an unconscious person may mean that the tongue, mucus, (slime or pus), or something else is stuck in the throat and does not let air go through

Attacks of sudden breathlessness at night may mean heart disease (p 371)

Look for 'sucking in' of the skin between ribs and at the angle of the neck (behind the collar bone) when the person breathes in This means air has trouble getting through Consider the possibility of something stuck in the throat (p 91), pneumonia (p 209), asthma (p 204), or bronchitis (mild sucking in, see p 207)

If the person complains of breathing problems, ask him the following questions

- Any chest pain? If the chest pain becomes worse by breathing or coughing and if the pain gets better by lying on the side, it means the beginning stages of pneumonia (see p 208)
- If the chest pain comes on during walking, running, climbing up the stairs, and disappears on taking rest for a few minutes, it means heart disease (see p.371)

If the person has a cough, ask him if it keeps him from sleeping Find out if he coughs up mucus, how much, its colour and if there is blood in it

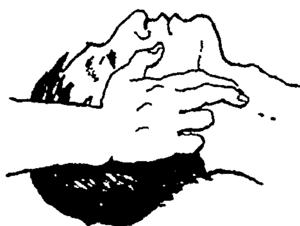
- Dry early morning cough is mostly due to too much smoking
- Cough with large amounts of mucus which is white in colour Bronchiectasis (p 208) or Chronic Bronchitis (p 207)
- Cough with blood stained mucus, fever in the afternoon, and weight loss — Tuberculosis (p 219) If the sick person is above 40 years old and smokes too much, he could have cancer of the lungs

PULSE (HEARTBEAT)

To take the person's pulse, put your fingers on the wrist as shown. (Do not use your thumb to feel for the pulse.)



If you cannot find the pulse in the wrist, feel for it in the neck beside the voicebox



or put your ear directly on the chest and listen for the heartbeat



Pay attention to the strength, the rate, and the regularity of the pulse If you have a watch or timer, count the pulses per minute

NORMAL PULSE FOR PEOPLE AT REST

adults	from 60 to 80 per minute
children	80 to 100
babies	100 to 140

If you do not have a watch, you can get an approximate idea of the sick person's pulse rate by comparing it with your own Be sure to do it after you have rested for a few minutes, or your pulse rate will be faster with the exertion

The pulse gets much faster with exercise and when a person is nervous, frightened has a fever **or is in acute pain** As a general rule, the pulse increases 20 beats per minute for each degree (°C) rise in fever

When a person is very ill, take the pulse often and write it down along with the temperature and rate of breathing

It is important to notice changes in the pulse rate For example

- A weak, rapid pulse can mean a state of shock (see p 89)
- A very rapid, very slow, or irregular pulse could mean heart trouble (see p 371)
- A relatively slow pulse in a person with a high fever may be a sign of typhoid (see p 229)

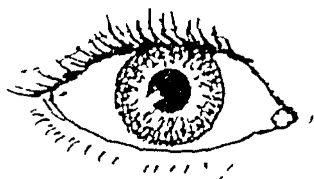
EYES

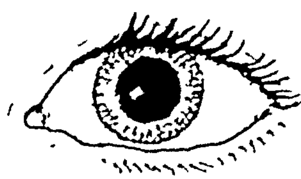
Look at the color of the white part of the eyes Is it normal, red (p 263), or yellow? Also note any changes in the sick person's vision

Have the person slowly move his eyes up and down and from side to side Jerking or uneven movement may be a sign of brain damage

Pay attention to the size of the *pupils* (the black 'window' in the center of the eye) If they are very large, it can mean a state of shock (see p 89) If they are very small, it can mean poison or the effect of certain drugs

Look at both eyes and note any difference between the two, especially in the size of the pupils.





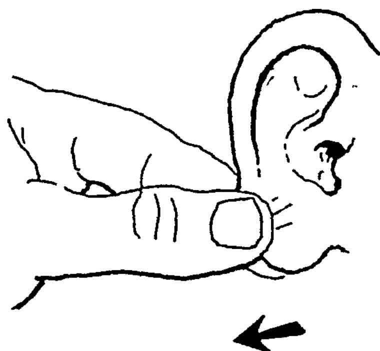
A difference in the size of the pupils is almost always a medical emergency

- If the eye with the larger pupil hurts so badly it causes vomiting, the person probably has GLAUCOMA (see p 267)
- If the eye with the smaller pupil hurts a great deal, the person may have IRITIS, a very serious infection (see p 266)
- Difference in the size of the pupils of an unconscious person or a person who has had a recent head injury may mean brain damage It may also mean STROKE (see p 373)

Always compare the pupils of a person who is unconscious or has had a head injury.

EARS

Always check for signs of pain and infection in the ears—especially when you examine a baby who has a fever or has had a cold A baby who cries a lot and rubs or pulls at his ear often has an ear infection (p 355)



If the skin behind the earlobe is red, then press that area If this causes severe pain, it means that the bone is infected The person usually has high fever and looks very ill For treatment , see p 355

To look inside the ear, pull the ear gently with your fingers, if this causes increased pain, the infection is probably in the tubex of the ear (ear canal)

Look for redness or pus inside the ear A small torch will help But never put a stick, wire or other hard object inside the ear

Find out if the person hears well, or if one side is more deaf than the other (For deafness and ringing of the ear see page 373)

MOUTH, TONGUE AND THROAT

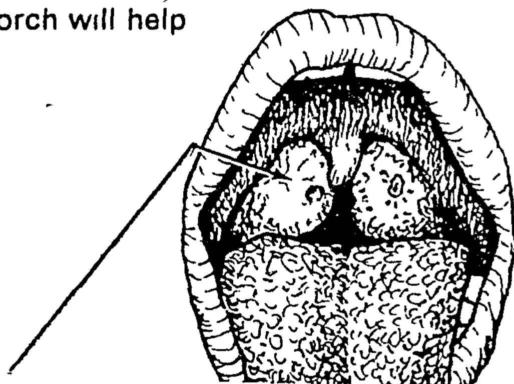
Examine the mouth, tongue and throat carefully, even if the person does not seem very sick

If there are cracks or sores at the corners of the mouth, this could be a vitamin deficiency(see p 276)

See the colour and the appearance of the tongue

- pale and smooth — anemia (see p 146)
- blue — problems with breathing or the heart (see p.371)
- dry tongue is a sign of dehydration (see p 181)
- small white patches on the tongue may mean fungal infection (see p 276)
- any old sore that does not heal, on the tongue or inside the mouth may be cancer This is very common in places where people chew betel leaves with slaked lime and tobacco Consult a health worker

To see the back of the throat, press the tongue with the back of a spoon A torch will help



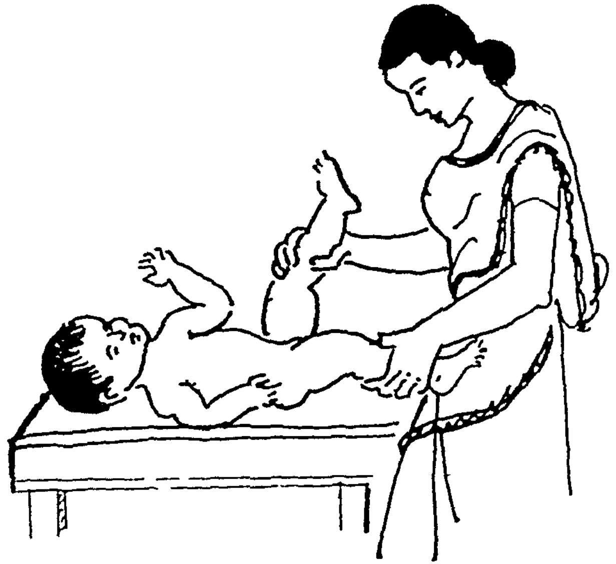
The tonsils are two small lumps on either side of the tongue at the back of the throat When the tonsils are affected, it is tonsillitis (see p 356) The tonsils become big and the child has fever This is one of the most important causes of fever in children

White or greyish patches on the tonsils and back of the throat in small children may mean diptheria (see p 361).

SKIN

It is important to examine the sick person's body, no matter how mild the sickness may seem Babies and children should be undressed completely Look carefully for anything that is not normal, including

- sores
- rashes or welts
- wounds
- splinters
- spots, patches, or any unusual markings
- *inflammation* (sign of infection with redness, heat, pain, and swelling)
- swelling
- abnormal lumps or masses
- swollen *lymph nodes* (little lumps in the neck, the armpits, or the groin, see p 101)
- unusual thinning or loss of hair, or loss of its color or shine (p 125)
- loss of eyebrows (leprosy? p 232)



Always examine little children between the buttocks, in the genital area, between the fingers and toes, behind the ears, and in the hair (for lice, ringworm, rashes, and sores).

For identification of different skin problems see page 238–240

THE BELLY (ABDOMEN)

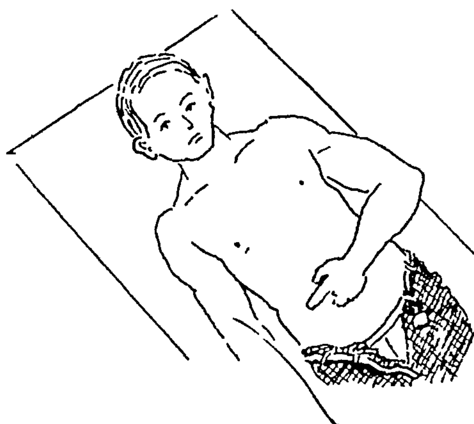
If a person has pain in the belly, try to find out exactly where it hurts

Learn whether the pain is steady or whether it suddenly comes and goes, like cramps or *colic.*

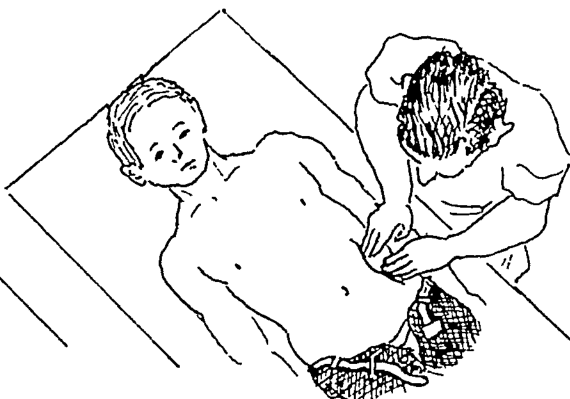
When you examine the belly, first look at it for any general swelling, swelling in a particular area or part, or lumps

The location of the pain often gives a clue to the cause (see p 44)

First, ask the person to point with one finger where it hurts

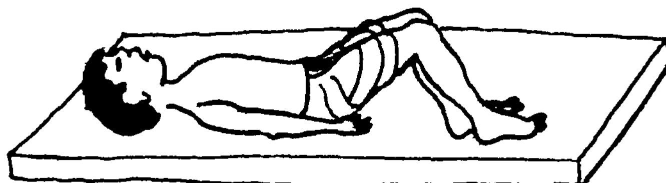


Then, beginning on the opposite side from the spot where he has pointed, press gently on different parts of the belly to see where it hurts most



See if the belly is soft or hard and whether the person can relax his stomach muscles A very hard belly could mean an acute abdomen—perhaps appendicitis or peritonitis (see p 108)

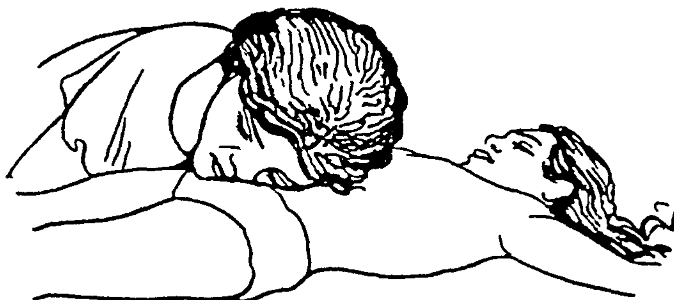
To make the abdomen relax, ask him to bend his legs at the knees, as shown



If you suspect peritonitis or appendicitis, do the test for *rebound pain* described on page 108

Feel for any abnormal lumps and hardened areas in the belly

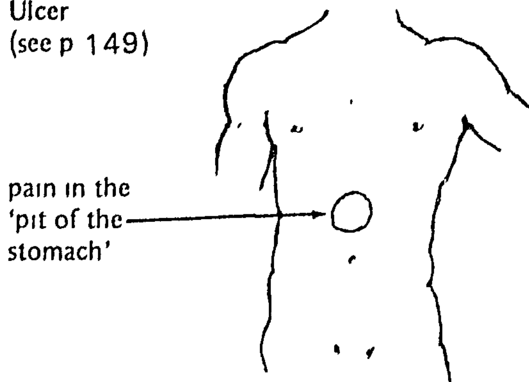
If the person has a constant pain in the stomach, with nausea, and has not been able to move his bowels, put an ear on the belly, like this

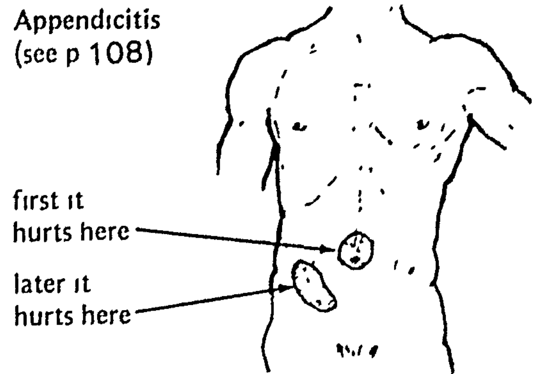


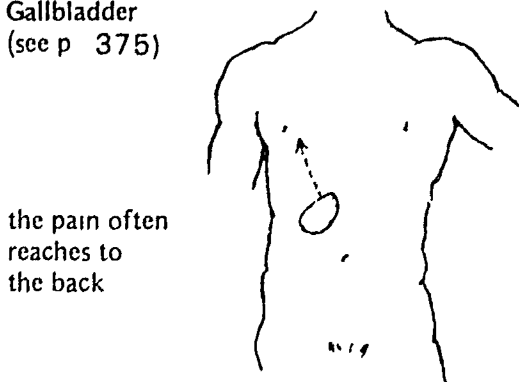
Listen for gurgles in the intestines If you hear nothing after about 2 minutes, this is a danger sign (See Emergency Problems of the Gut, p 106)

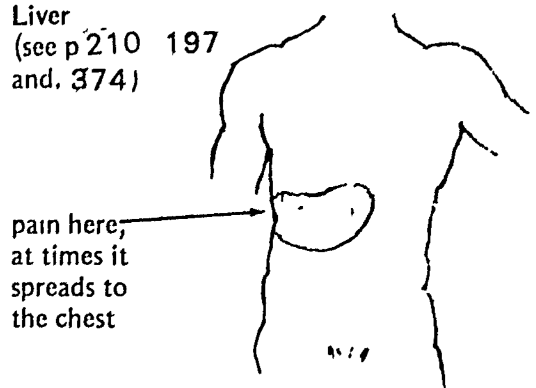
A silent belly is like a silent dog. Beware!

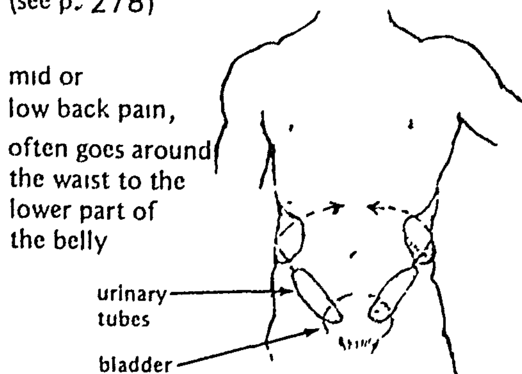
These pictures show the areas of the belly that usually hurt when a person has the following problems:

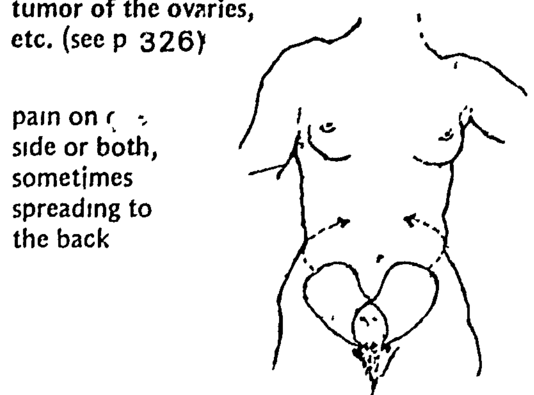












Note: For different causes of back pain see p. 211

MUSCLES AND NERVES

If a person complains of numbness, weakness, or loss of control in part of his body, or you want to test for it notice the way he walks and moves Have him stand, sit, or lie completely straight, and carefully compare both sides of his body



Face: Have him smile, frown, open his eyes wide, and squeeze them shut Notice any drooping or weakness on one side

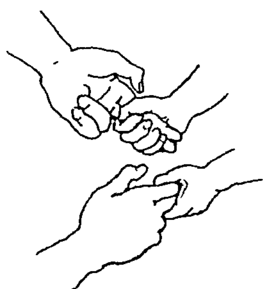
If the problem began more or less suddenly, think of a head injury (p104), stroke (p 373) or Bell's palsy (p 373)

If it came slowly, it may be a brain tumor Get medical advice

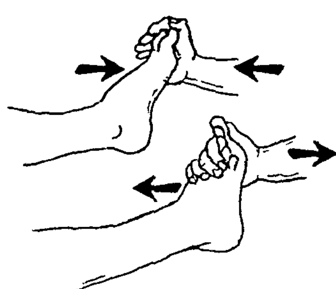
Also check for normal eye movement, size of pupils (p 260), and how well he can see

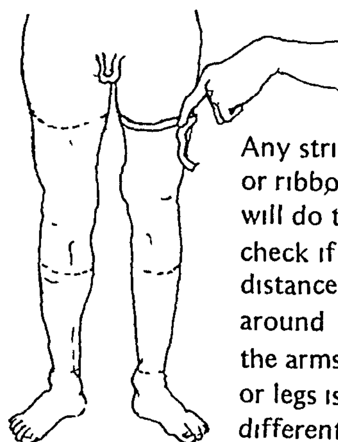
Arms and legs: Look for loss of muscle Notice—or measure—difference in thickness of arms or legs

Have him squeeze your fingers to compare strength in his hands



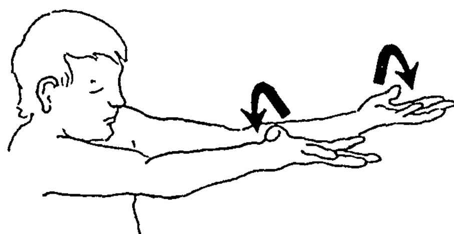
and push and pull with his feet against your hand





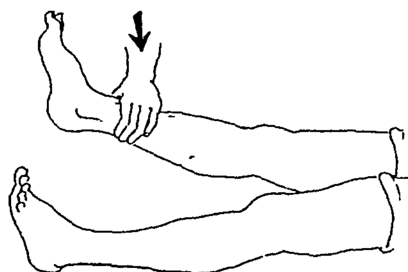
Any string or ribbon will do to check if the distance around the arms or legs is different

Also have him hold his arms straight out and turn his hands up and down



Note any weakness or trembling

Have him lie down and lift one leg and then the other



If muscle loss or weakness affects the whole body, suspect malnutrition (p 132) or a chronic (long-term) illness like tuberculosis

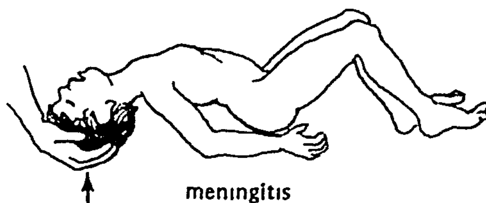
If muscle loss and weakness is uneven or worse on one side, in children, think first of polio (p 361), in adults, think of a back problem, a back or head injury, or stroke

Check for stiffness or tightness of different muscles:



- If the jaw is stiff or will not open, suspect tetanus (p 223) or a severe infection of the throat (p 356) or of a tooth (p 275)

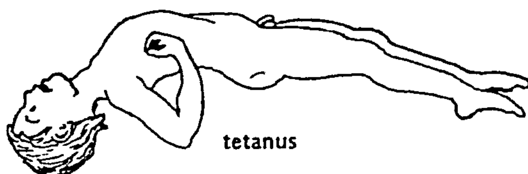
- If the neck or back is stiff and bent backwards, in a very sick child, suspect meningitis If the head will not bend forward or cannot be put between the knees, meningitis is likely (p 225)



meningitis

- If a child **always** has some stiff muscles and makes strange or jerky movements, he may be *spastic* (p.367)

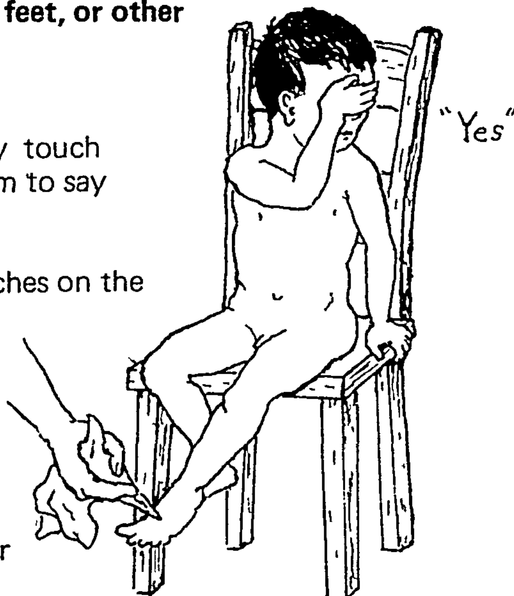
- If strange or jerky movements come suddenly, with loss of consciousness, he may have fits (p 217) If fits happen often, think of epilepsy If they happen when he is ill, the cause may be high fever (p. 88) or dehydration (p 181) or tetanus (p 222)



tetanus

To test a person's reflexes when you suspect tetanus, see p 224

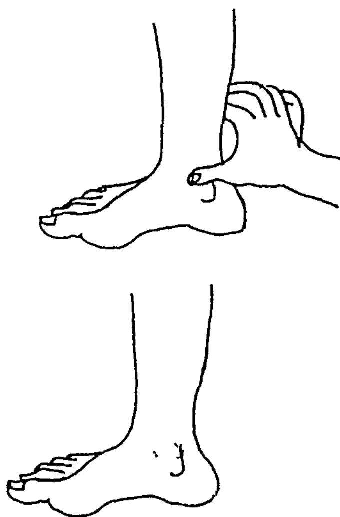
To check for loss of feeling in the hands, feet, or other parts of the body:



Have the person cover his eyes Lightly touch or prick the skin in different places Ask him to say 'yes' when he feels it

- Loss of feeling in or near spots or patches on the body is probably leprosy (p 232)
- Loss of feeling in both hands or feet may be due to diabetes (p 149) or leprosy
- Loss of feeling on one side only could come from a back problem (p 212) or injury.

Feet



Check to see if there is any swelling of the feet Normally swollen feet can be made out just by looking at the feet If the swelling is very little then press the skin over the ankle against the bone In case there is swelling, a small depression will be made

Small children who are malnourished often have swollen feet and face (see p 132)

Swollen feet are especially important in pregnant women, (see p 214) The feet are swollen if the kidneys are not working properly (see p 278) or if there is something wrong with the heart (see p 371)

Elephantiasis (see p. 229) also results in swollen feet, and groins To find out if the patient has elephantiasis, press the skin above the ankle as shown above If the patient has elephantiasis, there will be no depression in the skin after your remove your fingers

CHAPTER 4

How to Take Care of a Sick Person

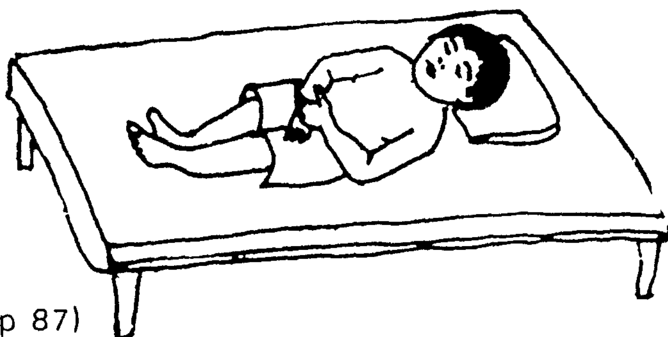
Sickness weakens the body Special care is needed to gain strength and get well quickly

The care a sick person receives is often the most important part of his treatment.

Medicines are often not necessary But good care is always important The following are the basis of good care

1. The Comfort of the Sick Person

A person who is sick should rest in a quiet, comfortable place with plenty of fresh air and light He should keep from getting too hot or cold If the air is cold or the person is chilled, cover him with a sheet or blanket But if the weather is hot or the person has a fever, do not cover him at all (see p 87)





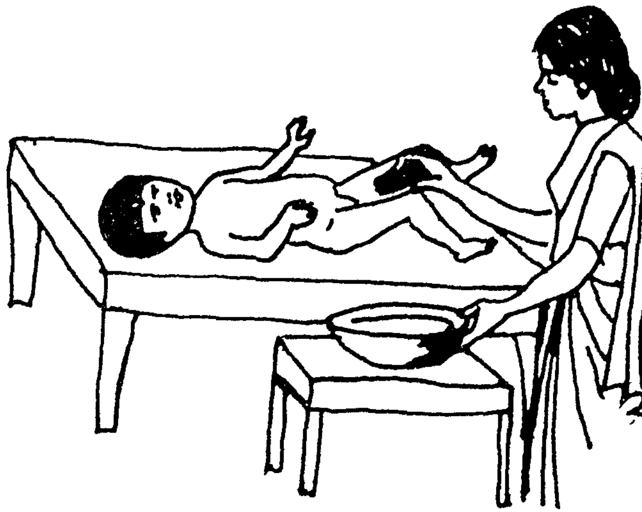
2. Liquids

In nearly every sickness, especially when there is fever or diarrhoea, the sick person should drink plenty of liquids Water, tea, juices, soups etc If he can drink only a little at a time, give him small amounts often If he can barely swallow, give him sips every 5 or 10 minutes.

Measure the amount of liquids the person drinks each day An adult needs to drink 2 liters or more every day and should urinate 3 or 4 times daily If the person is not drinking or urinating enough, or if he begins to show signs of dehydration (p 181) encourage him to drink more He should drink *nutritious* liquids, usually with a little salt added If he will not drink these, give him Rehydration Drink (see p 182) If he cannot drink enough of this, and develops signs of *dehydration,* a health worker may be able to give him *intravenous solution* But the need for this can usually be avoided if the person is urged to take small sips often

3. Personal Cleanliness

It is important to keep the sick person clean He should be bathed every day with warm water If he is too sick to get out of bed, wash him with a sponge or cloth and lukewarm water His clothes, sheets and covers must also be kept clean Take care to keep crumbs and bits of food out of the bed



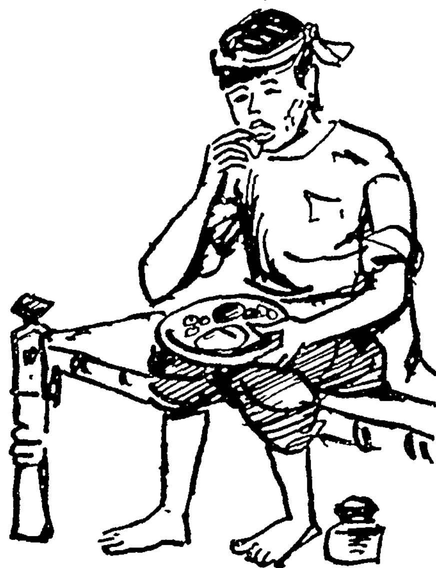
A SICK PERSON SHOULD BE BATHED EACH DAY

A person who is very weak and cannot turn over alone should be helped to change position in bed many times each day This helps prevent bed sores (see p 255)

A child who is sick for a long time should be held frequently on his mother's lap

Frequent changing of the person's position also helps to prevent pneumonia, a constant danger for anyone who is very weak or ill and must stay in bed for a long time If the person has a fever, begins to cough, and breathes with fast, shallow breaths, he probably has pneumonia (see p 208)

4. Good Food



If the sick person feels like eating, let him Most sicknesses do not require special diets A sick person should drink plenty of liquids and eat body-building and nourishing foods, like dal, beans, green leafy vegetables, fruits and milk If possible try to eat eggs, meat, fish and chicken Milk is very good as it contains the substances the body needs (see chapter 11)

If the person is very weak, give him these same foods, but make them into soups or juices

Energy foods are also important—for example, porridges of rice, wheat, corn, maize and ragi. Adding a little sugar and vegetable oil will increase the energy Also encourage the sick person to drink plenty of sweetened drinks,

especially, if he will not eat much If a person can eat only a little at a time he should eat several small meals each day

A few problems do require special diets These are explained on the following pages

stomach ulcers and heartburn p 149
appendicitis, gut obstruction, acute abdomen (in these cases take no food at all) p 106
diabetes p 149
heart problems p 371
gallbladder problems p 375
Urinary tract infection in children p 357

SPECIAL CARE FOR A PERSON WHO IS VERY ILL



1. Liquids

It is extremely important that a very sick person drink enough liquid If he only can drink a little at a time, give him small amounts often If he can barely swallow, give him sips every 5 or 10 minutes

2. Food

If the person is too sick to eat solid food, give him soups, curds, lassi, dal water, vegetable soup, lime juice, coconut water and other nutritious liquids (See chapter 11)
A porridge of rice, wheat dalia, suji or ragi is also good, but should be given together with body building foods Soups can be made with green leafy vegetables, beans, eggs, well chopped meat, fish or chicken If a person can eat only a little at a time, he should eat several small meals each day

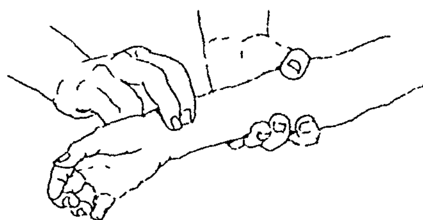
3. Cleanliness

Personal cleanliness is very important for a seriously ill person He should be bathed every day with warm water Change the bed clothes daily and each time they become dirty

4. Watching for Changes

You should watch for any change in the sick person's condition that may tell you whether he is getting better or worse Keep a record of his 'vital signs'. Write down the following facts 4 times a day


temperature
(how many degrees)


pulse
(beats per minute)


breathing
(breaths per minute)

Also write down the amount of liquids the person drinks and how many times a day he urinates and has a bowel movement Save this information for the health worker or doctor

It is very important to look for signs that warn you that the person's sickness is serious or dangerous A list of **Signs of Dangerous Illness** is given below If the person shows any of these signs, **Seek medical help immediately.**

WHEN AND HOW TO LOOK FOR MEDICAL HELP

Seek medical help at the first sign of a dangerous illness Do not wait until the person is so sick that it becomes difficult or impossible to take him to a health center or hospital

If a sick or injured person's condition could be made worse by the difficulties in moving him to a health center, try to bring a health worker to the person But in an emergency when very special attention or an operation may be needed (for example appendicitis), do not wait for the health worker Take the person to the health center or the hospital at once



When you need to carry a person on a stretcher, make sure he is as comfortable as possible and cannot fall out If he has any broken bones, splint them before moving him (see p 112). If the sun is very strong, rig a sheet over the stretcher to give shade yet allow fresh air to pass underneath

SIGNS OF DANGEROUS ILLNESS



A person who has one or more of the following signs is probably too sick to be treated at home without skilled medical help His life may be in danger **Seek medical help as soon as possible.** Until help comes, follow the instructions on the pages indicated

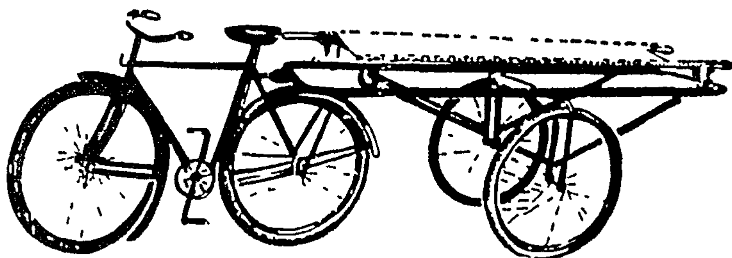
		page
1	Loss of large amounts of blood from anywhere in the body	95, 310, 327
2.	Coughing up blood	219
3.	Marked blueness of lips and nails (if it is new)	36, 92, 204, 371
4	Great difficulty in breathing, does not improve with rest	204, 371
5	The person cannot be wakened (coma)	90
6.	The person is so weak he faints when he stands up	371
7	A day or more without being able to urinate	278
8	A day or more without being able to drink any liquids	181
9	Heavy vomiting or severe diarrhea that lasts for more than one day or more than a few hours in babies	181
10	Black stools like tar, or vomit with blood or feces	150
11	Strong, continuous stomach pains with vomiting in a person who does not have diarrhea or cannot have a bowel movement	106
12	Any strong continuous pain that lasts for more than 3 days	35 44
13	Stiff neck with arched back, with or without a stiff jaw	222, 225
14	More than one fit (convulsions) in someone with fever or serious illness	88 224
15	High fever (above 39° C) that cannot be brought down or that lasts more than 4 or 5 days	88
16	Weight loss over an extended time	28
17	Blood in the urine	278
18	Sores that keep growing and do not go away with treatment	232 238 252 253
19	A lump in any part of the body that keeps getting bigger	238, 326
20	Problems with pregnancy and childbirth	
	any bleeding during pregnancy	295, 327
	swollen face and trouble seeing in the last months	295
	long delay once the waters have broken and labor has begun	313
	severe bleeding	310

A BICYCLE AMBULANCE

You can make a simple, inexpensive bicycle ambulance for your village. It is not necessary to purchase a bicycle You can use one that belongs to someone who is helpful in your village

Materials:

- *two thick wooden or bamboo poles 2½ metres long*
- strong canvas or other cloth 2¼ metre long and 90 cms wide
- one sheet to cover the patient
- a metal or heavy bamboo or wooden frame to hold the stretcher—2 metre 35 cms long and 56 cms wide
- *canvas strips 7 cm wide and at least 1 metre 80 cms long*
- a pair of bicycle wheels fitted into a metal frame Your village blacksmith can make this



one metal ring welded on the rear frame of the bicycle
one L-shaped piece of metal fastened to the front of the rack which carried the stretcher This will fit into the metal ring of the bicycle and will hitch the bicycle to the stretcher

Instructions:

Fold the long ends of the cloth on both sides and stitch it well, so that the bamboo or wooden poles can fit into them Be sure to stitch very well with strona thread so it does not open

In the frame which holds the stretcher, cut deep groves so that the handles of the stretcher will fit properly, and will not fall off when the bicycle moves You may also tie the handles to the frames as an added precaution

Lift the injured person on to the stretcher as shown on page 113 and 114

When the stretcher is secure on the frame, cover the person with a sheet Tie the person with broad canvas bands to the stretcher

Drive carefully, avoiding jolts and short turns

This type of ambulance is particularly useful if the health centre of hospital is very far, and if the injured or sick person has to be taken immediately for medical help

WHAT TO TELL THE HEALTH WORKER

For a health worker or doctor to recommend treatment or prescribe medicine wisely, he should see the sick person If the sick person cannot be moved, have the health worker come to him If this is not possible, send a responsible person who knows the details of the illness **Never send a small child**

When you send someone for medical help, always send a completed information form with him.

CHAPTER 5

HEALING WITHOUT MEDICINES

For most sicknesses no medicines are needed Our bodies have their own defenses, or ways to resist and fight disease In most cases, these natural defenses are far more important to our health than are medicines

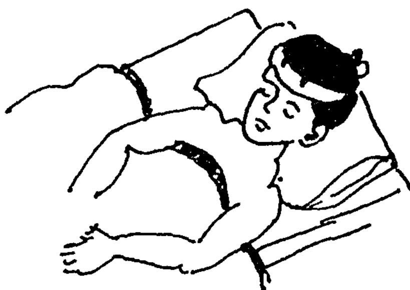
People will get well from most sicknesses —including the common cold and 'flu'— by themselves, without need for medicines.

To help the body fight off or overcome a sickness, often all that is needed is to

keep clean



get plenty of rest



eat well



Even in a case of more serious illness, when a medicine may be needed, **it is the body that must overcome the disease;** the medicine only helps Cleanliness, rest, and nutritious food are still very important

Much of the art of health care does not—and should not—depend on use of medications Even if you live in an area where there are no modern medicines, there is a great deal you can do to prevent and treat most common sicknesses—if you learn how

Many sicknesses can be prevented or treated without medicines.

If people simply learned how to use **water** correctly, this alone might do more to prevent and cure illnesses than all the medicines they now use and misuse

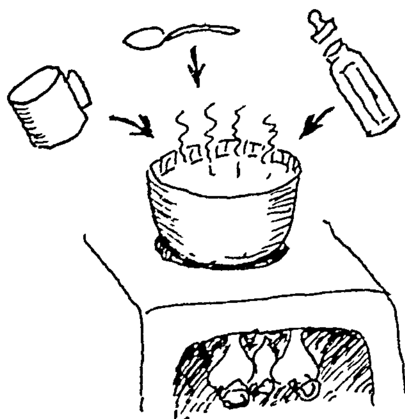
HEALING WITH WATER

Most of us could live without medicines But no one can live without water. In fact, over half (57%) of the human body is water If everyone living in farms and villages made the best use of water, the amount of sickness and death—especially of children—could probably be cut in half

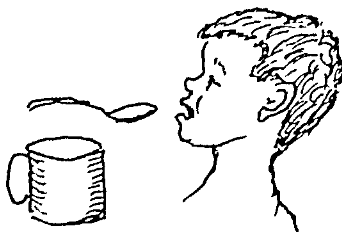
For example, correct use of water is basic both in the prevention and treatment of diarrhea In many areas diarrhea is the most common cause of sickness and death in small children *Contaminated* (unclean) water is often part of the cause

PREVENTION

An important part of the prevention of diarrhea is to boil water used for drinking or for preparing foods This is especially important for babies Babies' bottles and eating utensils should also be boiled Washing your hands with soap and water after a bowel movement (shitting) and before eating or handling foods is just as important



TREATMENT



The common cause of death in children with diarrhea is severe *dehydration,* or loss of too much water from the body (see p 181) By giving a child with diarrhea plenty of water (best with sugar or honey and salt), dehydration can often be prevented or corrected (see Rehydration Drink, p.182)

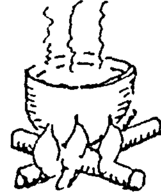
Giving lots of liquids to a child with diarrhea is more important than any medicine. In fact, if enough liquid is given, no medicine is usually needed in the treatment of diarrhea

On the next 2 pages are a number of other situations in which **it is often more important to use water correctly than to use medicines.**

Times When the Right Use of Water May Do More Good than Medicines

PREVENTION

	to prevent	use water	see page
1	diarrhea, worms, gut infections	boil drinking water, wash hands, etc	169
2	skin infections	bathe often	167
3	wounds becoming infected, tetanus	wash wounds well with soap and water	97 102
4	heat stroke heat exhaustion	in summer bathe many times a day in cold water drink plenty of water with salt in it throughout the day	94



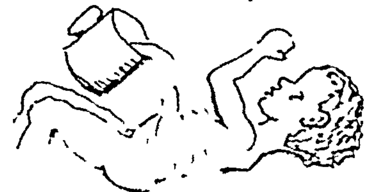




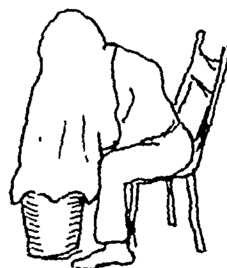
TREATMENT

	to treat	use water	see page
1	diarrhea, dehydration	drink plenty of liquids	182
2	illnesses with fever	drink plenty of liquids	87
3	high fever, heat stroke and heat exhaustion	soak body with cool water	88, 93, 94
4	minor urinary infections (common in women)	drink plenty of water	279





	to treat	use water	see page
5	cough, asthma, bronchitis, pneumonia, whooping cough	drink a lot of water and breathe hot water vapors (to loosen mucus)	205
6	sores, impetigo, ringworm of skin or scalp, cradle cap, pimples	scrub with soap and water	242 243, 246 252, 256
7	infected wounds, abscesses, boils	hot soaks or compresses	101, 243
8	stiff, sore muscles and joints	hot compresses	116, 211,
9	itching, burning, or weeping irritations of the skin	cold compresses	235 236
10	minor burns	hold in cold water	109
11	sore throat or tonsillitis	gargle hot salt water	356
12	acid, lye, dirt, or irritating substance in eye	flood eye with cool water at once	264
13	stuffed up nose	sniff salt water	201

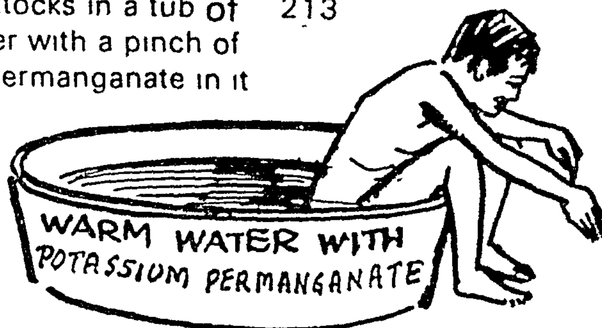








14	constipation, hard stools	drink lots of water (also enemas are safer than laxatives, but do not overuse)	151
15	piles, anal fissure	soak buttocks in a tub of warm water with a pinch of potassium permanganate in it	213



In many of the above cases when water is used correctly, often medicines are not needed In this book you will find many suggestions for healing without need for medicine Use medicines, only when absolutely necessary

CHAPTER 6

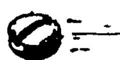
RIGHT AND WRONG USES OF MODERN MEDICINES

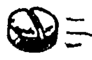
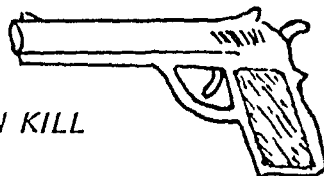
Some medicines sold in pharmacies or village stores can be very useful Others are of no value Also, people sometimes use the best medicines in the wrong way, so that they do more harm than good **To be helpful, medicine must be used correctly.**

Many people, including most doctors and health workers, prescribe far more medicines than are needed—and by so doing cause much needless sickness and death

There is some danger in the use of any medicine.

Some medicines are much more dangerous than others. Unfortunately, people sometimes use very dangerous medicines for mild sicknesses (I have seen a baby die because his mother gave him a dangerous medicine, chloramphenicol, for a cold) **Never use a dangerous medicine for a mild illness.**



REMEMBER *MEDICINES CAN KILL*

Guidelines for the use of medicine:

1 Use medicines only when necessary.

2 Know the correct use and precautions for any medicine you use (see the GREEN PAGES)

3 Be sure to use the right dose

4. If the medicine does not help, or causes problems, stop using it

5. When in doubt, seek the advice of a health worker

6. **Always check the expiry date** (last date before which to use) of the medicine If the medicine is given after this date, it may do more harm than good

Note: Some health workers and many doctors give medicines when none is needed, often because they think patients expect medicine and will not be satisfied unless they get some Tell your doctor or health worker you only want

medicine if it is definitely needed This will save you money and be safer for your health

Only use a medicine when you are sure it is needed and when you are sure how to use it.

THE MOST DANGEROUS MISUSE OF MEDICINE

Here is a list of the most common and dangerous errors people make in using modern medicines The improper use of the following medicines causes many deaths each year BE CAREFUL!

1. Chloramphenicol *(Chloromycetin)* (p 401)



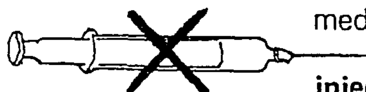
The popular use of this medicine for simple diarrhea and other mild sicknesses is extremely unfortunate, because it is so risky Use chloramphenicol only for very severe illnesses, like typhoid (see p 229) Never give it to newborn infants

2. Oxytocin *(Pitocin)*, **Pituitrin, and Ergonovine** *(Ergotrate)* (p 424)



Unfortunately, some midwives use these medicines to speed up childbirth or 'give strength' to the mother in labor This practice is very dangerous It can kill the mother or the child Use these medicines **only** to control bleeding **after** the child is born (see p 312)

3. Injections of any medicine



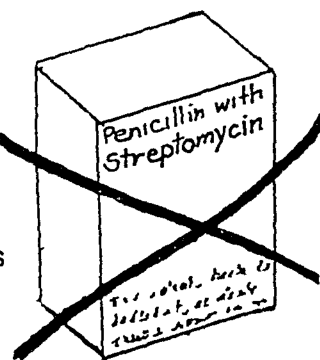
The common belief that injections are usually better than medicine taken by mouth is **not** true Many times medicines taken by mouth work as well as or better than injections Also, **most medicine is more dangerous injected than when taken by mouth.** Use of injections should be **very limited** (read Chapter 9 carefully)

4. Penicillin

Penicillin works against only certain types of infections Frequent use of penicillin for sprains bruises, or any pain or fever is a great mistake As a general rule, injuries that do not break the skin, even if they make large bruises, have no danger of infection, they do not need to be treated with penicillin or any other antibiotic Penicillin ointment or powder used on the skin can make the person sensitive to penicillin

Penicillin is dangerous for some people Before using it, know its risks and precautions you must take (see p 70)

5. Injections of penicillin with streptomycin (p 400)
There are many familiar brands names.

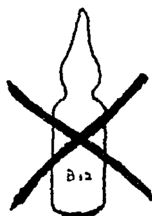


These medicines are used too much and often for the wrong reason They should not be used for colds for two reasons

1a They do not work against colds and flu.
1b They can cause serious problems, sometimes deafness or death

2 **Give streptomycin for treatment of tuberculosis only.** If you give it for any other disease, the person may become resistant to streptomycin, and then will have to take more expensive medicines to cure tuberculosis Do not give this medicine for any other disease

6. Vitamin B_{12} and liver extract (p 425)



These medicines do not help anemia or 'weakness' except in rare cases Also, they have certain risks when injected They should only be used when a health worker has prescribed them **after testing the blood.** In nearly every case of anemia, iron pills will do more good (see p 147)

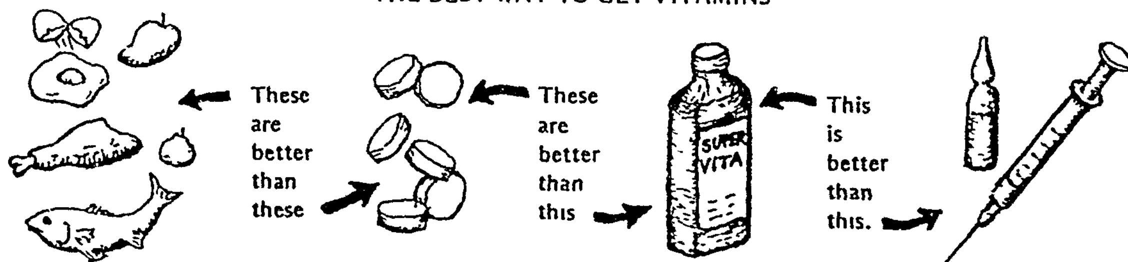
7. Other vitamins (p 424)

As a general rule, DO NOT INJECT VITAMINS. Injections are more dangerous, more expensive, and usually no more effective than pills

Unfortunately, many people waste their money on syrups, tonics, and 'elixirs' that contain vitamins Many lack the most important vitamins (see p.139). But even when they contain them, it is wiser to buy more and better food. Body-building and protective foods like beans, vegetables, fruits, eggs, and meat, are rich in vitamins and other nutrients (see p.129 -131). Giving a thin, weak person good food more often will usually help him far more than giving him vitamin and mineral supplements

A person who eats well does not need extra vitamins.

THE BEST WAY TO GET VITAMINS:



For more information about vitamins, when they are necessary, and the foods that have them, read Chapter 11, especially pages 129 and 138

8 Calcium



Injecting calcium into a vein can be extremely dangerous It can quickly kill someone if not injected **very slowly.** Injecting calcium into the buttocks sometimes causes very serious abscesses

Never inject calcium without first seeking medical advice!

It is better to eat food rich in calcium, such as green leafy vegetables, tapioca, ragi, milk, cheese, etc

9. 'Feeding' through the veins (Intravenous or 'I.V.' solutions)

In some areas, persons who are anemic or very weak spend their last paise. to have a liter of I V solution put into their veins They believe that this will make them stronger or their blood richer But they are wrong!

Intravenous solution is nothing more than pure water with some salt or sugar in it It gives less energy than a large candy bar It does not help anemia or make the weak stronger

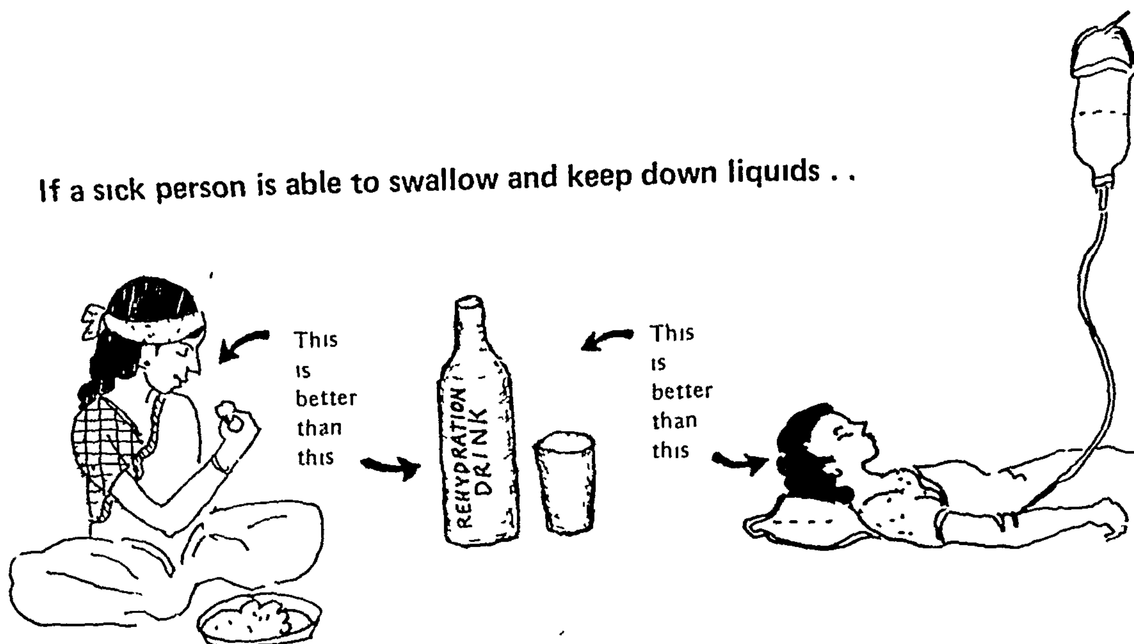
Also when a person who is not well trained puts the I V solution into a vein, there is danger of an infection entering the blood This can kill the sick person

Intravenous solution should be used only when a person can take nothing by mouth, or when he is badly dehydrated (see p 183)
Only a trained health worker should give these solutions.

If the sick person can swallow, give him a liter of water with a little sugar and salt (see Rehydration Drink, p.182). It will do as much for him as injecting a liter of I.V. solution.

For people who are able to eat, nutritious foods do more to strengthen them than any type of I.V. fluid.

If a sick person is able to swallow and keep down liquids . .



10. Laxatives and Purges (p 417)

It is always dangerous to give a laxative or purge to a baby or to anyone who is very weak, dehydrated, or has severe pain in his belly Unfortunately, people often believe that purges bring back health or clean the bad things out of the body In Chapter 1 it is explained that **purges or strong laxatives nearly always do more harm than good.**

To learn the correct uses of laxatives and enemas, see p 21

WHAT TO EAT WHEN TAKING MEDICINES

Many people believe that they should avoid eating certain foods like brinjal, tomato, curds, oranges, guavas, eggs, meat and cooking oil when they take any medicine They think all medicines will do harm if they are taken with these foods This is not true ! No medicines causes harm just because it is taken with these foods

But in case of some illnesses, certain foods can make the illness more severe, because the body cannot use these foods

diabetes . see p 149
heart problems see p 371
high blood pressure see p 148
gall bladder problems see p 375
stomach ulcers and heart burn see p 150
urinary tract infection in children see p 357

Certain foods can cause serious damage in these illnesses, whether or not any medicine is being taken Certain medicines will cause bad reactions if a person takes alcohol (see metronidazole, page 407)

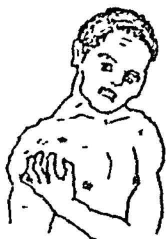
WHEN SHOULD MEDICINE NOT BE TAKEN?

There are situations when, without a doubt, it is best **not** to use certain medicines

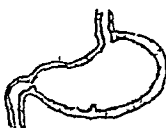


1 Pregnant women or women who are breast feeding should avoid all medicines that are not absolutely necessary. (However, they can take vitamins or iron pills without danger)

2 With newborn children, be very careful when using medicines Whenever possible look for medical help before giving them any type of medicine Be sure not to give too much



3 A person who has ever had any sort of allergic reaction—hives, itching, etc —after taking penicillin, ampicillin, a sulfonamide, or other medicines, **should never use that medicine again for the rest of his life** because it would be dangerous (see Dangerous reactions from injections of certain medicines, p 83)



4 Persons who have ulcers or heartburn should avoid medicines that contain aspirin

5 There are specific medicines that are harmful or dangerous to take when you have certain illnesses For example, persons with hepatitis should not be treated with antibiotics or other strong medicines, because their liver is damaged, and the medicines are more likely to poison the body (see p 210)

6. Persons who are dehydrated or have disease of the kidneys should be especially careful with medicines they take Do not give more than one dose of a medicine that could poison the body unless (or until) the person is urinating normally For example, if a child has high fever and is dehydrated (see p 88), do not give him more than one dose of aspirin until he begins to urinate **Never give sulfa to a person who is dehydrated.**

CHAPTER 7

ANTIBIOTICS: WHAT THEY ARE AND HOW TO USE THEM

When used correctly, antibiotics are extremely useful and important medicines They fight certain infections and diseases caused by *bacteria* Well-known antibiotics are penicillin, tetracycline, streptomycin, and chloramphenicol In this book the sulfa drugs, or sulfonamides, are also considered as antibiotics

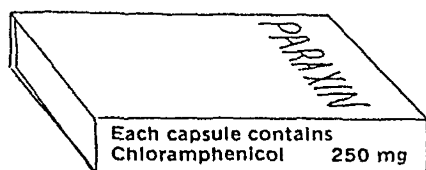
The different antibiotics work in different ways against specific infections. All antibiotics have dangers in their use, but some are far more dangerous than others. Great care must be taken in the choice and use of antibiotics.

There are many kinds of antibiotics, and each kind is sold under several 'brand names' This can be confusing However, the most important antibiotics fall into a few major groups

antibiotic group (generic name)	**examples of brand names**	**brand names in your area** (write in)	**see page**
PENICILLINS	*Veripen*	________	397
TETRACYCLINES	*Terramycin*	________	400
SULFONAMIDES	*Orisul*	________	402
CHLORAMPHENICOL	*Chloromycetin*	________	401
ERYTHROMYCIN	*Erythrocin*	________	400
AMPICILLINS*	*Ampillin*	________	399
STREPTOMYCIN	*Ambistrin-S*	________	403

***Note:** Ampicillin is a type of penicillin that kills more kinds of bacteria than do ordinary penicillins

If you have a brand-name antibiotic and do not know to which group it belongs, read the fine print on the bottle or box For example, if you have some *Paraxin 'S'* but do not know what is in it, read the fine print It says 'chloramphenicol'



Look up chloramphenicol in the GREEN PAGES (p 401) You will find it must be used only for a few very serious illnesses, like typhoid, and is especially dangerous when given to the newborn

Never use an antibiotic unless you know to what group it belongs, what diseases it fights, the correct dose for that disease and the precautions you must take to use it safely.

Information on the uses, dosage, risks, and precautions for the antibiotics recommended in this book can be found in the GREEN PAGES Look for the name of the medicine in the alphabetical list at the beginning of those pages

GUIDELINES FOR THE USE OF *ALL* ANTIBIOTICS

1 If you do not know exactly how to use the antibiotic and what infections it can be used for, do not use it

2 Use only an antibiotic that is recommended for the infection you wish to treat (Look for the illness in this book)

3 Know the risks in using the antibiotic and take all the recommended precautions (see the GREEN PAGES)

4 Use the antibiotic only in the recommended dose—no more, no less The dose depends on the illness and the age or weight of the sick person

5 Never use injections of antibiotics if taking them by mouth is likely to work as well Inject only when absolutely necessary

6 Keep using the antibiotics until the illness is completely cured, or for at least 2 days after the fever and other signs of infection have gone (Some illnesses, like tuberculosis and leprosy need to be treated for many months or years after the person feels better Follow the instructions for each illness)

7 If the antibiotic causes a skin rash, itching, difficult breathing, or any serious reactions, the person must stop using it and **never use it again** (see p 82)

8 **Only use antibiotics when the need is great.** When antibiotics are used too much they begin not to work as well

GUIDELINES FOR THE USE OF *CERTAIN* ANTIBIOTICS

1 Before you inject penicillin or ampicillin always have ampules of **adrenalin** (epinephrine) ready to control an allergic reaction if one occurs (p 81) Keep ***adrenalin*** ready both ***before and after*** doing a sensitivity test (p 81)

2 For persons who are allergic to penicillin use another antibiotic such as erythromycin or a sulfa (see p 400 and 402)

3 Do not use tetracycline, or another *broad-spectrum* antibiotic, for an illness that can probably be controlled with penicillin or another *narrow-spectrum* antibiotic (see p 70)

4 As a rule, use chloramphenicol only for typhoid fever It is a dangerous drug **Never** use it for mild illness and **never** give it to newborn children

5 Never inject tetracycline or chloramphenicol They are safer, less painful, and do as much or more good when taken by mouth

6. Do not give tetracycline to pregnant women after the fourth month or to children under 6 years old (see p 401)

7 Use streptomycin and products that contain it only for tuberculosis -- and always together with another anti-tuberculosis medicine (see p. 403)

8 Do not apply penicillin ointment or powder locally on the skin or an open wound This may make the person allergic to penicillin The person may also develop resistance to penicillin and later may need stronger and more expensive medicines to cure a simple disease (p 397)

WHAT TO DO IF AN ANTIBIOTIC DOES NOT SEEM TO HELP

For most common infections antibiotics begin to bring improvement in a day or two **If the antibiotic you are using does not bring any improvement, it is possible that:**

1 The illness is not what you think. You may be using the wrong medicine Try to find out more exactly what the illness is—and use the right medicine

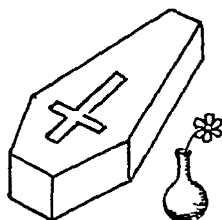
2. The dose of the antibiotic is not correct Check it

3 The bacteria have become *resistant* to the antibiotic being used (they no longer are harmed by it). Try another one of the antibiotics recommended for that illness.

4 You may not know enough to cure the illness Get medical help, especially if the condition is serious or getting worse.

These three children had a cold . . .

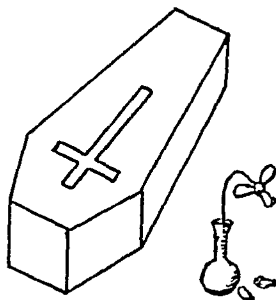
What was the villain?



Penicillin!

(see Allergic Shock, p.83)

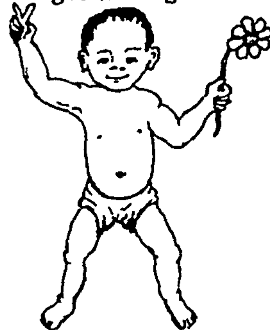
What took the toll?



Chloramphenicol!

(see risks and precautions for this drug, p. 401)

Why did this child get well again?



He got no risky medicine—

just fruit juice, good food, and rest

Antibiotics do no good for the common cold.

Use antibiotics only for infections they are known to help.

IMPORTANCE OF LIMITED USE OF ANTIBIOTICS

The use of all medicines should be limited But this is especially true of antibiotics, for the following reasons

1 **Poisoning and reactions.** Antibiotics not only kill bacteria, they can also harm the body, either by poisoning it or by causing allergic reactions Many people die each year because they take antibiotics they do not need

2 **Upsetting the natural balance.** Not all bacteria in the body are harmful Some are necessary for the body to function normally Antibiotics often kill the good bacteria along with the harmful ones Babies who are given antibiotics sometimes develop fungus infections of the mouth (thrush, p 276) or skin (moniliasis, p 286) This is because the antibiotics kill the bacteria that help keep fungus under control

For similar reasons, persons who take ampicillin and other broad-spectrum antibiotics for several days may develop diarrhea Antibiotics may kill some kinds of bacteria necessary for digestion, upsetting the natural balance of bacteria in the gut

3 **Resistance to treatment.** In the long run, the most important reason for limiting the use of antibiotic is that WHEN ANTIBIOTICS ARE USED TOO MUCH THEY BECOME LESS EFFECTIVE

When attacked many times by the same antibiotic, bacteria become stronger and are no longer killed by it They become ***resistant*** to the antibiotic For this reason, certain dangerous diseases like typhoid are becoming more difficult to treat than they were a few years ago

In some places typhoid has become resistant to chloramphenicol, normally the best medicine for treating it Chloramphenicol has been used far too much for minor infections, infections for which other antibiotics would be safer and work as well, or for which no antibiotic at all is needed.

Throughout the world important diseases are becoming resistant to antibiotics —largely because antibiotics are used too much for minor infections **If antibiotics are to continue to save lives, their use must be far more limited than it is at present.** This will depend on their wise use by doctors, health workers, and the people themselves

For most minor infections antibiotics are not needed and should not be used Minor skin infections can usually be successfully treated with soap and water, hot soaks, and perhaps painting them with gentian violet (p 409) Minor respiratory infections are best treated by drinking lots of liquids, eating good food, and getting plenty of rest For most diarrheas, antibiotics are not necessary and may even be harmful. What is most important is to drink lots of liquids (p 186) and provide enough food as soon as the child will eat

Do not use antibiotics for infections the body can fight successfully by itself. Save them for when they are most needed.

CHAPTER

8 HOW TO MEASURE AND GIVE MEDICINE



Symbols:

= means **is equal to** or **is the same as**

+ means **and** or **plus**

1	+	1	=	2
One	plus	one	equals	two

How Fractions Are Sometimes Written:

1/2 tablet = half of a tablet =

1 1/2 tablets = one and one-half tablets =

1/4 tablet = one quarter or one-fourth of a tablet =

1/8 tablet = one-eighth of a tablet (dividing it into 8 equal pieces and taking 1 piece) =

MEASURING

Medicine is usually weighed in grams (gm) and milligrams (mg)

1000 mg. = 1 gm (one thousand milligrams make one gram)

1 mg = 0 001 gm (one milligram is one one-thousandth part of a gram)

Examples

One adult aspirin tablet contains 300 milligrams of aspirin	3 gm 0 3 gm 0 300 gm 300 mg	All these are different ways of saying 300 milligrams
One baby aspirin contains 75 milligrams of aspirin	075 gm 0 075 gm 75 0 mg 75 mg	All these are different ways of saying 75 milligrams

Note - DO NOT GIVE ASPIRIN TO BABIES BELOW 1 YEAR

Many times it is important to know how many grams or milligrams are in a medicine

For example, if you want to give a small piece of adult aspirin to a child, instead of baby aspirin, but you do not know how big a piece to give .

read the small print on the labels of each.
It says aspirin acetylsalicylic acid .3 gm
(acetylsalicylic acid = aspirin)



.3 gm = 300 mg and 075 gm = 75 mg. So, you can see that one adult aspirin weighs 4 times as much as one babv aspirin

75 mg
75 mg
75 mg
75 mg

4 baby aspirin add up to

300 mg — 1 regular aspirin

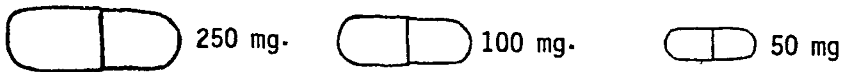
If you cut the adult aspirin into 4 equal pieces, each quarter = one baby aspirin





So if you cut an adult aspirin into 4 pieces, you can give the child 1 piece in place of a baby aspirin. Both are equal, and the piece of adult aspirin costs less

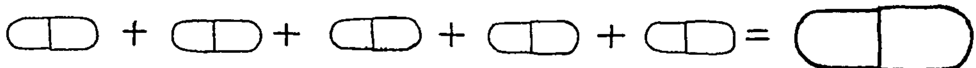
CAUTION: Many medicines, especially the antibiotics, come in different weights and sizes For example, tetracycline may come in 3 sizes of capsules



Be careful to only give medicine in the recommended amounts. It is very important to check how many grams or milligrams the medicine contains

For example If the prescription savs Take tetracycline, 1 capsule or 250 mg. 4 times a day, and you have only 50 mg capsules, you have to take five 50 mg capsules 4 times a day (20 a day)

50 mg + 50 mg + 50 mg + 50 mg. + 50 mg. = 250 mg



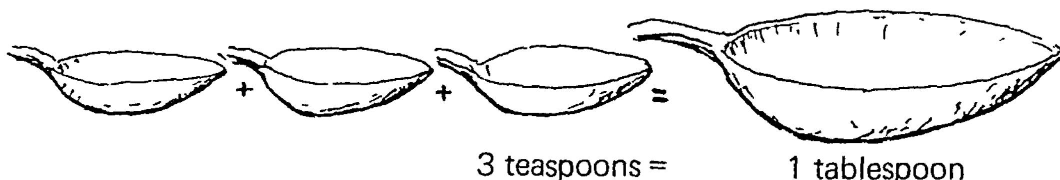
MEDICINE IN LIQUID FORM

Syrups, suspensions, and other liquid medicines are measured in milliliters

ml = milliliter 1 liter = 1000 ml

Often liquid medicines are prescribed in tablespoons or teaspoons

1 teaspoon (tsp) = 5 ml 1 tablespoon (Tbs) = 15 ml



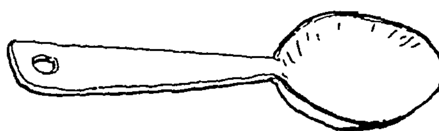
3 teaspoons = 1 tablespoon

When instructions for a medicine say. Take 1 tsp., this means take 5 ml

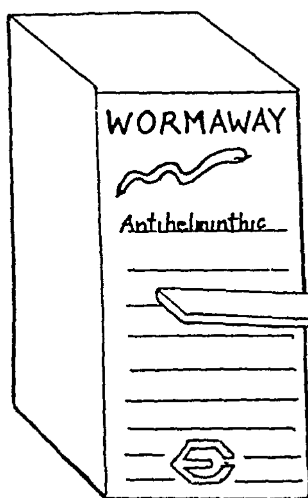
Many of the 'teaspoons' people use hold as much as 8 ml. or as little as 3 ml. **When using a teaspoon to give medicine, it is important that it measure *5 ml.*— No more. No less.** This is especially important when giving medicines to children

How to Make Sure that the Teaspoon Used for Medicine Measures 5 ml.

1 Buy a 5 ml measuring spoon



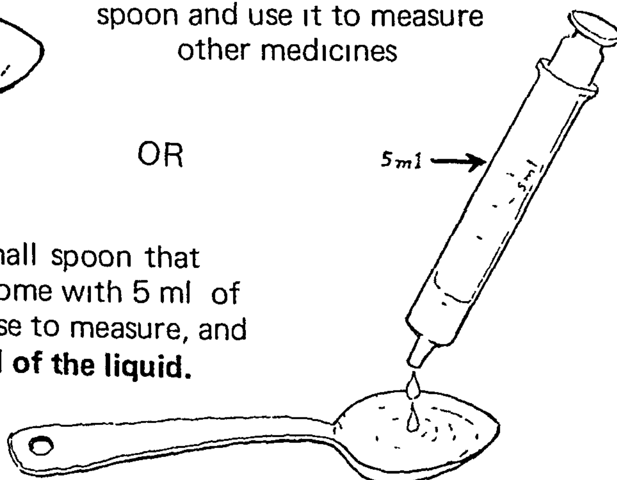
OR



2 Buy a medicine that comes with a plastic spoon. This measures 5 ml when it is full and may also have a line that shows when it is half full (2 5 ml.) Save this spoon and use it to measure other medicines

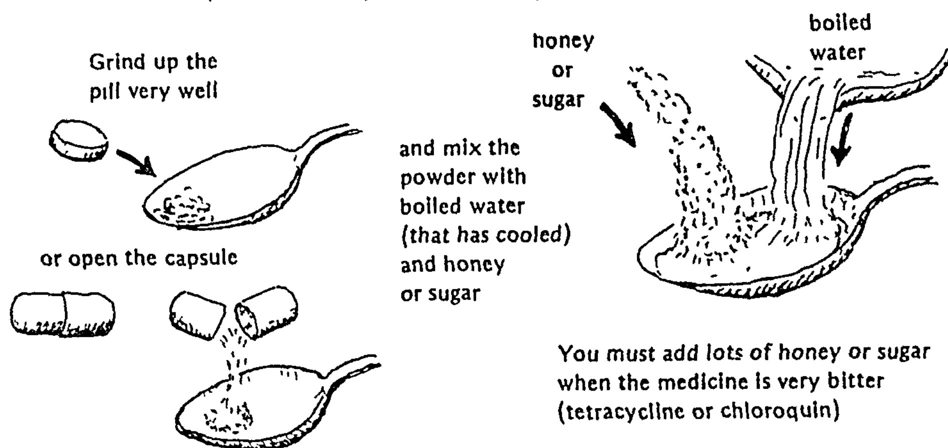
OR

3 Fill any small spoon that you have at home with 5 ml of water, using a syringe or something else to measure, and **make a mark on the spoon at the level of the liquid.**



HOW TO GIVE MEDICINES TO SMALL CHILDREN

Many medicines that come as pills or capsules also come in syrups or *suspensions* (special liquid form) for children If you compare the amount of medicine you get, the syrups are usually more expensive than pills or capsules You can save money by making your own syrup in the following way



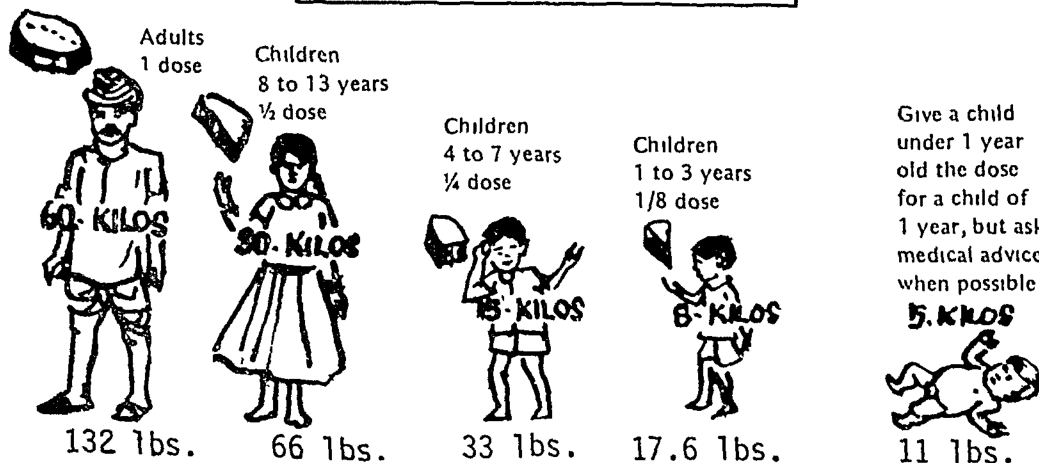
When making syrups for children from pills or capsules, **be very careful not to give too much medicine.** Do not mix Isoniazid (INH) for treatment of tuberculosis with sugar or honey This makes INH less effective

HOW MUCH MEDICINE SHOULD YOU GIVE TO CHILDREN WHEN YOU ONLY HAVE THE INSTRUCTIONS FOR ADULTS?

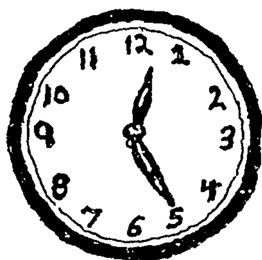
Generally, the smaller the child, the less medicine he needs Giving more than needed can be dangerous

If you have information about the doses for children, follow it carefully If you do not know the dose, figure it out by using the weight or age of the child Children should generally be given the following portions of the adult dose

1 kilogram (kg.) = 2.2 pounds (lb.)



HOW TO TAKE MEDICINES

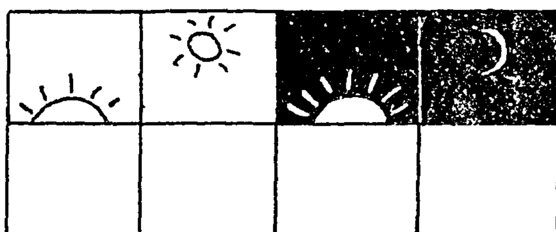


It is important to take medicines more or less at the time recommended. Some medicines should be taken only once a day, but others must be taken more often. If you do not have a clock, it does not matter If the directions say '1 pill every 8 hours', take 3 a day one in the morning, one in the afternoon, and one at night. If they say '1 pill every 6 hours', take 4 each day one in the morning, one at midday, one in the afternoon, and one at night. If the directions are '1 every 4 hours', take 6 a day, allowing more or less the same time between pills

Whenever you give a medicine to someone else, it is a good idea to write the instructions and also to have the person repeat to you how and when to take the medicine Make very sure he understands

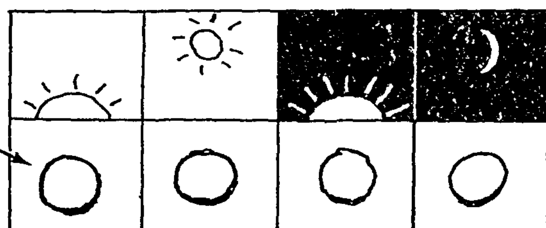
To remind people who cannot read when to take their medicine, you can give them a note like this

In the blanks at the bottom draw the amount of medicine they should take and carefully explain what it means.

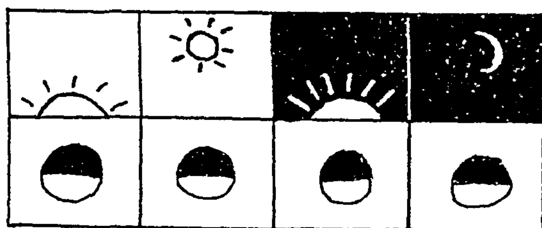


For example

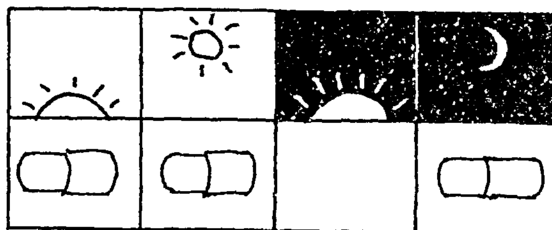
This means 1 tablet 4 times a day, 1 at sunrise, 1 at noon, 1 at sunset, 1 in the middle of the night.



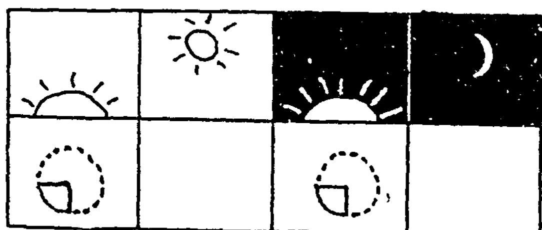
This means ½ tablet 4 times a day.



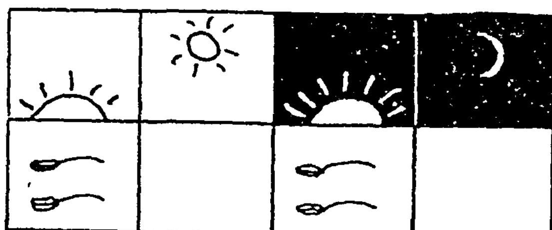
This means 1 capsule 3 times a day.



This means ¼ tablet twice a day.



This means 2 teaspoons twice a day.



WHEN YOU GIVE MEDICINES TO ANYONE . . .

Always write all the following information on the note with the medicine—even if the person cannot read

- the person's name
- the name of the medicine
- what it is for
- the dosage

Name. Prem Sagar
Medicine: Piperazine 500mg. tablets
For Thread worm
Dosage take 2 tablets twice a day

This information can be put on the same note as the drawing for dosage

A page of these dosage blanks is included at the end of the book Cut them out and use them as needed When you run out, you can make more yourself

When you give medicine to someone, it is a good idea to keep a record of this same information If possible, keep a complete Patient Report

TAKING MEDICINES ON A FULL OR EMPTY STOMACH

Some medicines work best when you take them on an empty stomach—that is, one hour before meals

Other medicines are less likely to cause upset stomach or heartburn when taken along with a meal or right afterwards

Take these medicines 1 hour before meals

- penicillin
- ampicillin
- tetracycline

It is better not to drink milk an hour before or after taking tetracycline

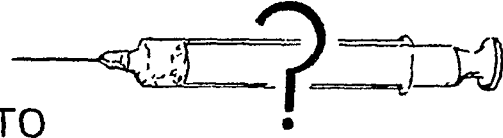
Take these medicines together with or soon after meals

- aspirin and medicine that contains aspirin
- iron (ferrous sulfate)
- vitamins
- erythromycin
- P A S

Antacids do the most good if you take them when the stomach is empty, 1 or 2 hours after meals and at bedtime.

CHAPTER 9

INSTRUCTIONS AND PRECAUTIONS FOR INJECTIONS



WHEN TO INJECT AND WHEN NOT TO

Injections are not needed often Most sicknesses that require medical treatment can be treated as well or better with medicines taken by mouth As a general rule

It is more dangerous to inject medicine than to take it by mouth.

Injections should be used only when absolutely necessary Except in emergencies, they should be given only by health workers or persons trained in their use

The only times medicines should be injected are:

1 When the recommended medicine does not come in a form that can be taken by mouth

2 When the person vomits often, cannot swallow, or is unconscious.

3 In certain unusual emergencies and special cases (see the next page)

WHAT TO DO WHEN THE DOCTOR PRESCRIBES INJECTIONS

Doctors and other health workers sometimes prescribe injections when they are not needed After all, they can charge more money for injections. They forget the problems and dangers of giving them in rural areas

1 If a health worker or healer wants to give you an injection, be sure the medicine is *appropriate* and that he takes all the necessary precautions

2. If a doctor prescribes injections, explain that you live where no one is well trained to give injections and ask if it would be possible to prescribe a medicine to take by mouth

3 If a doctor wants to prescribe injections of vitamins, liver extract, or vitamin B_{12}, but has not had your blood tested, tell him you would prefer to see another doctor

EMERGENCIES WHEN IT IS IMPORTANT TO GIVE INJECTIONS

In case of the following sicknesses, get medical help as fast as you can. If there will be any delay in getting help or in taking the sick person to a health center, inject the appropriate medicine as soon as possible. For details of the doses consult the pages listed below. Before injecting, know the possible side effects and take the needed precautions.

For these sicknesses	Inject these medicines
Severe pneumonia (p. 208) Infections after childbirth (p. 322) Gangrene (p. 254)	penicillin in high doses (p. 398-99)
Tetanus (p. 222)	penicillin (p. 397-98) and tetanus antitoxin (p. 421) and phenobarbital (p. 422) or diazepam (p. 423)
Appendicitis (p. 108) Peritonitis (p. 108) and bullet wound or other puncture wound in the belly	penicillin with streptomycin (p. 399)
Poisonous snakebite (p. 121)	snake antivenom (p. 421)
Scorpion sting (p. 123)	scorpion antivenom (p. 421)
Vomiting (p. 192) when it cannot be controlled	antiemetic, for example promethazine (p. 419, 420)
Severe allergic reaction allergic shock, (p. 83) and severe asthma, (p. 204)	*Adrenalin* (p. 419)

The following chronic illnesses generally require injections, but they are rarely emergencies. It is best to consult a health worker for treatment:

Tuberculosis (p. 219, 220)	streptomycin (p. 403, 404) together with INH tablets and PAS tablets (p. 404)
Syphilis (p. 281) Gonorrhea (p. 280)	procaine penicillin in very high doses (p. 399)

WHEN NOT TO INJECT.



Never give injections if you can get medical help quickly

Never give an injection for a sickness that is not serious

Never give injections for a cold or the flu

Never inject a medicine that is not recommended for the illness you want to treat

Never inject a medicine unless you know and take all the recommended precautions

Avoid giving injections especially to small children when there is an epidemic of polio in your village

MEDICINES NOT TO INJECT

In general, it is better never to inject the following

1. **Vitamins.** Rarely are injected vitamins any better than vitamins taken by mouth Injections are more expensive and more dangerous Use vitamin pills or syrups rather than injections Better still, eat foods rich in vitamins (see p 130)

2. **Liver extract and vitamin B_{12}.** Do not inject them! Ferrous sulfate pills will do more good for almost all cases of anemia (see p 424)

3. **Calcium.** Injected into a vein calcium is extremely dangerous, if not given **very slowly.** An injection in the buttock may cause a large *abscess* Untrained people should never inject calcium

4. **Penicillin.** Nearly all infections that require penicillin can be effectively treated with penicillin taken by mouth Penicillin is more dangerous when injected **Use injectable penicillin only for dangerous infections.**

5. **Penicillin with streptomycin.** Avoid this combined medicine. Never use it for colds or the flu (p 200)

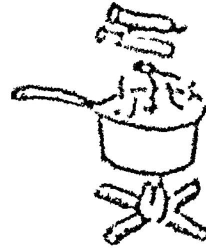
6. **Chloramphenicol or tetracycline.** These medicines do as much or more good when taken by mouth Use capsules or syrups rather than injections (p 401)

7. **Intravenous (I.V.) solutions.** These should be used only for severe dehydration and given only by someone who is well trained When not given correctly they can cause dangerous infections or death (p 64)

8. **Intravenous medicines.** There is so much danger in injecting any medicine in the vein that only well-trained health workers should do it However, never inject into a muscle (the buttock) medicine that says 'for intravenous use only Also, never inject in the vein medicine that says 'for intramuscular use only'

RISKS AND PRECAUTIONS

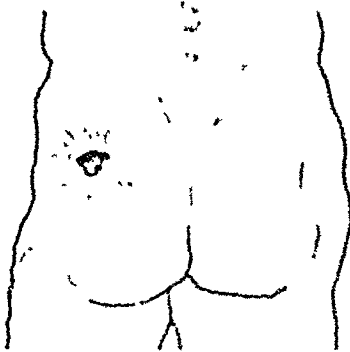
The risks of injecting any medicines are (1) infection caused by germs entering with the needle and (2) allergic or poisonous reactions caused by the medicine.



1. To lower the chance of infection when injecting, take great care that everything is completely clean. It is very important to boil the needle and syringe before injecting. After boiling, do not touch the tip of the needle with your fingers or with anything else. (see p. 85)

Always boil the needle before each injection, especially if you are using the same needle for many persons. Carefully follow all of the instructions for injection (see following pages).





An abscess like this one comes from injecting with a needle that has not been well boiled and is not *sterile* (completely clean and germ free).

2. This child was injected with a needle that was not sterile.



The dirty needle caused an infection that produced a large painful abscess (a pocket of pus) and gave the child a fever. Finally, the abscess burst as shown in the picture below.

The child was injected for a cold. It would have been far better to give him no medicine at all. Rather than doing him good, the injection caused the child suffering and harm.

3 To avoid problems like this
Inject only when absolutely necessary

* Boil the syringe and needle just before giving the injection and be very careful to keep them completely clean
* Use only the medicine recommended for the disease and be sure that it is still in good condition and not spoiled
* Inject in the correct place (Notice that this child was injected **too low** on the buttock where it is possible to damage the nerve



4 It is very important to know what reactions medicine can produce and to take the recommended precautions before injecting

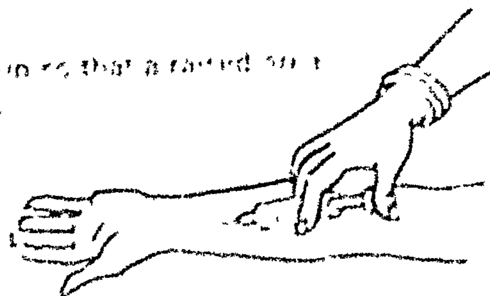
DANGEROUS REACTIONS FROM INJECTING CERTAIN MEDICINES

Certain drugs like penicillin, ampicillin, and antitoxins are likely to give *severe allergic reactions* Before injecting the full dose of any of these medicines, ALWAYS DO A SENSITIVITY TEST * to find out if the person is sensitive to the medicine

Always keep ***adrenalin*** ready **before and after** doing a sensitivity test

How to do a sensitivity test

* Prepare the syringe for injection as shown in page 85
* Use a very small needle (size number 26)
* Clean the skin of the inner side of the forearm with soap and water or alcohol
* Be sure the skin is dry before injecting



- Hold the syringe flat against the skin
- Inject 0.1 ml of the medicine just into the skin so that a raised spot is formed. **Do not inject under the skin.**
- Remove the needle and wait for 30 minutes

Watch for the following signs:

- site of the injection becomes red, painful or swells up



- hives or a rash with itching
- swelling anywhere
- difficult breathing
- signs of shock (see p. 83)
- dizzy spells with nausea (wanting to vomit)
- problems with vision
- ringing in the ears or deafness
- severe back pain
- difficulty urinating

If any of the signs appear, DO NOT INJECT THE REST OF THE MEDICINE. DO NOT EVER GIVE THE MEDICINE TO THE SAME PERSON AGAIN. Inject 0.5 ml of *adrenalin* for adults and 0.25 ml for children.

If none of these signs appear within 30 minutes, then inject the rest of the medicine in the muscle of the buttocks as shown in page 86.

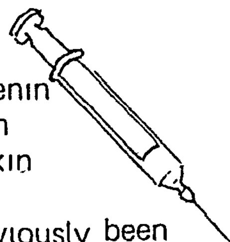
Sometimes a person who shows no signs of allergic reaction after a sensitivity test may show the signs after a full dose.

Always keep adrenalin ready even after doing a sensitivity test.

If a person complains of hives or rash a few days after getting a full dose of the injection, he is probably allergic to the medicine. Do not give him the same medicine again.

Sometimes, hives or a rash with itching can appear a few hours or several days after getting an injection.

The following groups of medicines sometimes produce a dangerous reaction called ALLERGIC SHOCK a short time after injection

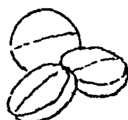


- penicillins (including ampicillin)
- antitoxins that are made from horse serum { scorpion antivenin, snake antivenin, tetanus antitoxin }

The risk of **Allergic shock** is greater in a person who has previously been injected with one of these medicines or with another medicine of the same group. This risk is especially great if the medicine caused an allergic reaction (hives, itching, swelling, or trouble breathing) a few hours or days after the injection was given



Rarely, ALLERGIC SHOCK may result from the sting of a wasp or bee or from medicine taken by mouth



To prevent a serious reaction from an injection:-

1 Use injections only when absolutely necessary

2 Before injecting one of the medicines listed above, always have ready 2 ampules of *Adrenalin* (p. 419) and an ampule of an antihistamine like promethazine (*Phenergan,* p 419) or diphenhydramine (*Avil,* p 420)

3 Before injecting, always ask if at any other time a similar injection caused itching or other reactions If the person says yes, do not use this medicine or any other medicine of the same group, either injected or taken by mouth If he says no, do a sensitivity test before injecting the full dose of the medicine

4 In very serious cases, like tetanus or snakebite, if there is a good chance that the antitoxin might produce an allergic reaction (if the person suffers from allergies or asthma or has had horse serum before), inject promethazine or diphenhydramine 15 minutes before giving the antitoxin adults, 3 ml , children 1 or 2 ml depending on their size

5 After injecting any medicine, always stay with the person for 30 minutes to watch for any of the following signs of ALLERGIC SHOCK

- cool, moist, pale, gray skin (cold sweat)
- weak, rapid pulse or heartbeat
- difficulty breathing
- loss of consciousness

These signs can appear even if the sensitivity test was normal

6 If these signs appear, immediately inject *Adrenalin:* adults,0 5 ml children, 0 25ml Treat the person for SHOCK (see p 89) Follow by giving an antihistamine in double the usual dose

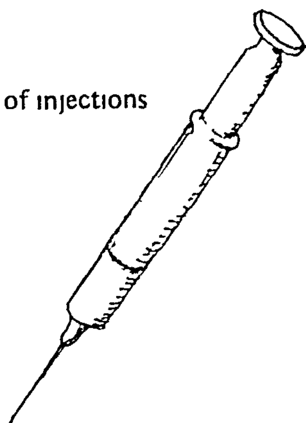
How to Avoid Serious Reactions to a Penicillin Injection

1 For mild to moderate infections

give penicillin pills

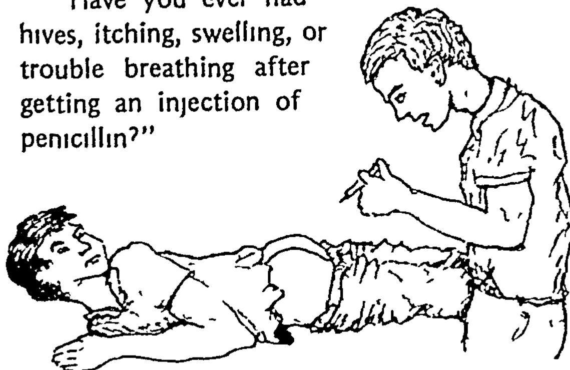


instead of injections



2. Before injecting ask the person:

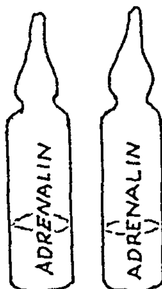
"Have you ever had hives, itching, swelling, or trouble breathing after getting an injection of penicillin?"



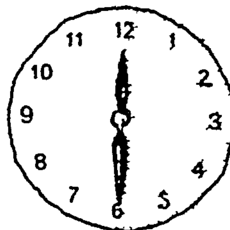
If the answer is yes, do not use penicillin or ampicillin. Use another antibiotic like erythromycin (p. 400) or a sulfonamide (p. 402).
If the answer is no, do a sensitivity test

3. Before injecting penicillin:

always have ampules of *ADRENALIN* ready



4. After injecting



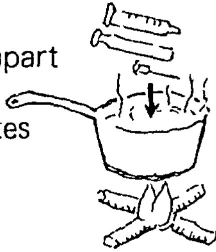
stay with the person for at least 30 minutes

5. If the person becomes very pale, his heart beats very fast, he has difficulty breathing, or he starts to faint, immediately inject into a muscle half an ampule of *ADRENALIN* (a quarter of an ampule in small children) and repeat in 10 minutes if necessary.

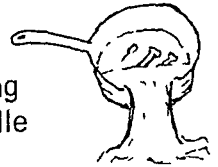


HOW TO PREPARE A SYRINGE FOR INJECTION

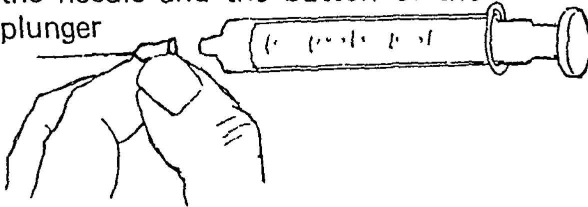
1 Take the syringe apart and boil it and the needle for 15 minutes



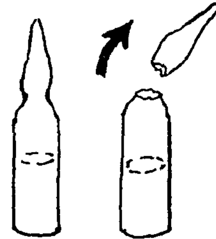
2 Pour out the boiled water without touching the syringe or the needle



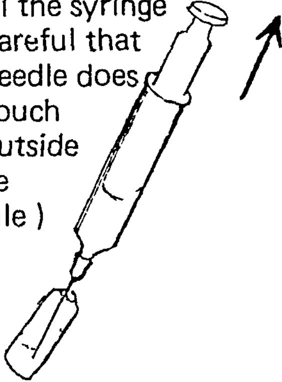
3 Put the needle and the syringe together, touching only the base of the needle and the button of the plunger



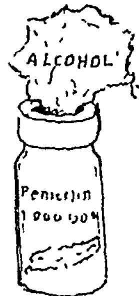
4 Clean the ampule of distilled water well, then break off the top



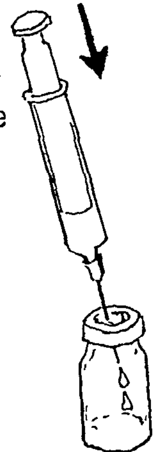
5 Fill the syringe (Be careful that the needle does not touch the outside of the ampule)



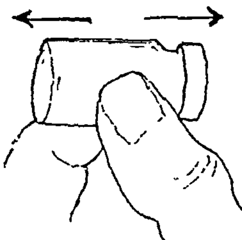
6. Rub the rubber of the bottle with clean cloth wet with alcohol or boiled water



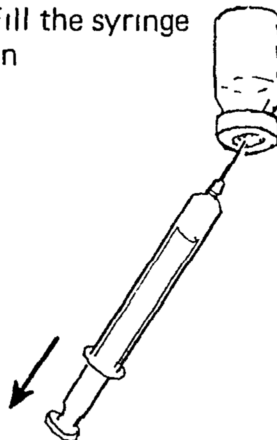
7. Inject the distilled water into the bottle with the powdered medicine



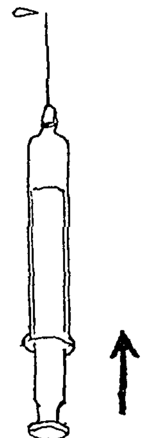
8 Shake until the medicine dissolves



9 Fill the syringe again



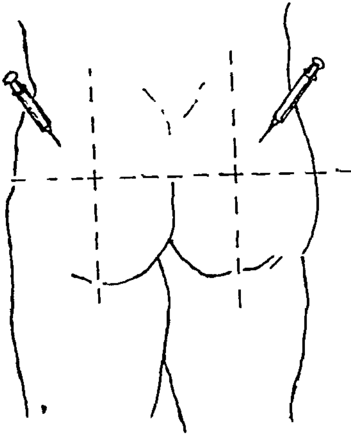
10 Remove all air from the syringe



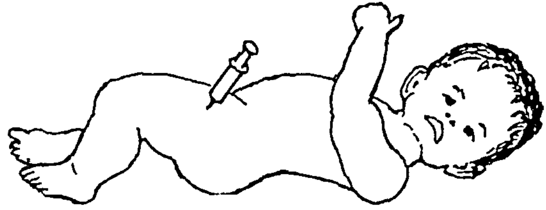
Be very careful not to touch the tip of the needle with anything,not even the cotton with alcohol. If by chance the tip of the needle touches your finger or something else, boil it again.

WHERE TO GIVE AN INJECTION

It is preferable to inject in the muscle of the buttocks, always in the **upper outer** quarter

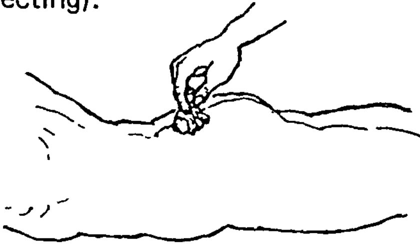


Never inject children under 2 years of age in the buttock Inject them in the **upper outer** part of the thigh.

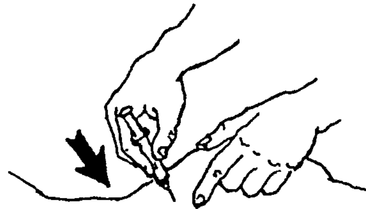


HOW TO INJECT

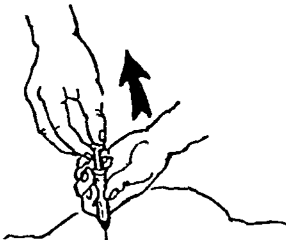
1. Clean the skin with soap and water (or alcohol—but to prevent severe pain, be sure the alcohol is dry before injecting).



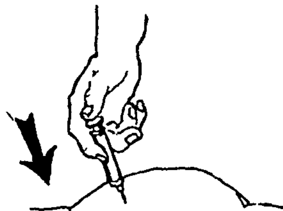
2 Put the needle straight in, all the way (If it is done with one quick movement, it hurts less)



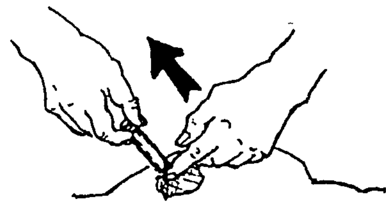
3 Before injecting, pull back on the plunger (If blood enters the syringe, take the needle out and put it in somewhere else)



4 If no blood enter inject the medicine slowly



5 Remove the needle and clean the skin again



6 After injecting, rinse the syringe and needle at once Squirt water through the needle and then take the syringe apart and wash it Boil before using again

CHAPTER

10 FIRST AID

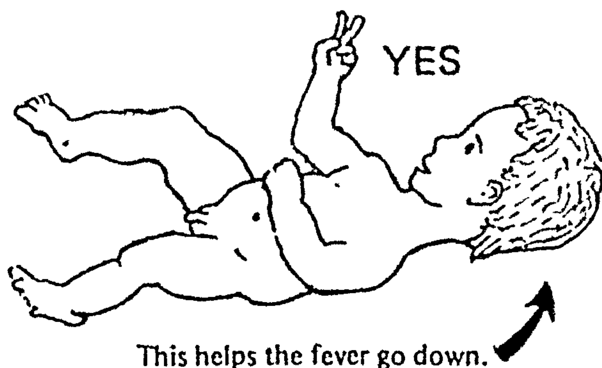
FEVER

When a person's body temperature is too hot, we say he has a *fever.* Fever itself is not a sickness, but a sign of many different sicknesses However, **high fever can be dangerous, especially in a small child.**

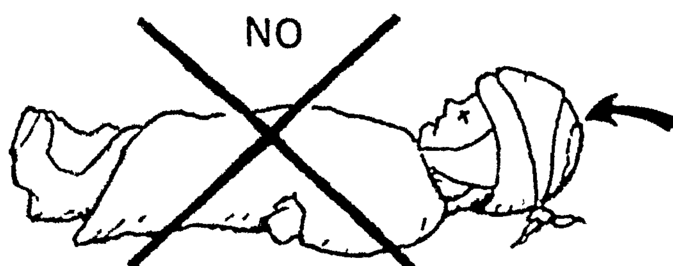
When a person has a fever:

1 Uncover him completely

Small children should be undressed completely and left naked until the fever goes down



This helps the fever go down.



Never wrap the child in clothing or blankets

This makes the fever go up.

To wrap up a child with fever is dangerous.

Fresh air or a breeze will not harm a person with fever. On the contrary, a fresh breeze helps lower the fever

2 Also take aspirin to lower fever (see p 414). Small children can be given either acetaminophen (paracetamol, p 414), children's aspirin, or a piece of a regular 5-grain (300 mg) aspirin tablet

3 Anyone who has a fever should **drink lots of water,** juices, or other liquids For small children, especially babies, give boiled and then cooled drinking water.

4. When possible, find and treat the cause of the fever.

Very High Fevers

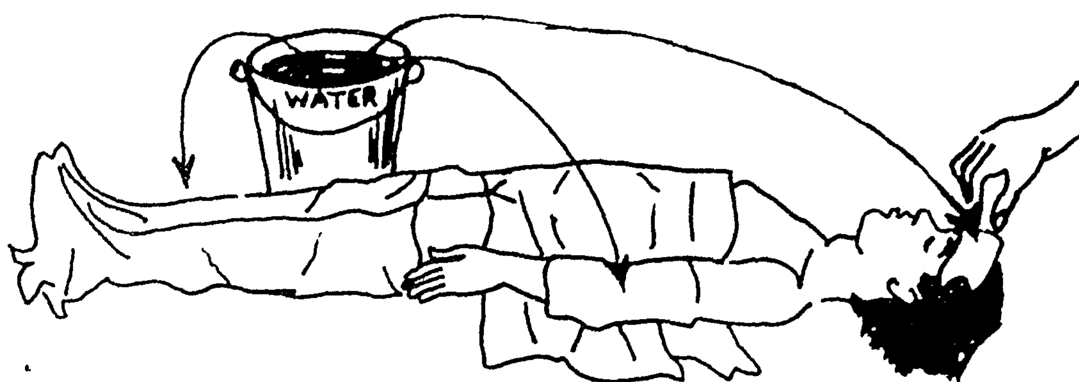
A very high fever can be dangerous if it is not brought down quickly It can cause fits (convulsions) or even permanent brain damage (paralysis, mental slowness, epilepsy, etc.) High fever is most dangerous for small children

When a fever goes very high (over 40°), it must be lowered at once:

1 Pour cool water over him, or soak some pieces of cloth in cool water Place these wet cloths on his forehead, arms and legs. Fan the cloths and change them often, to keep them cool Continue to do this until the fever goes down below 38°. Be sure not to use ice cold water as this may cause shivering and the fever may go up

2. If a person has fever, he loses lots of energy Give him plenty of cool water with a little sugar or jaggery to drink, to keep up his strength

3 Give a medicine to bring down fever Aspirin works well.



Dosage (using 300 mg. adult tablets)

Persons over 12 years 2 tablets every **8 hours**

Children 6 to 12 years 1 tablet every **8 hours after food**

Children 3 to 6 years ½ tablet every **8 hours after food**

Children under 3 years ¼ tablet every **8 hours after food**

To babies under one year, do not give any aspirin tablets. If you keep them naked, the fever will come down You can also give paracetamol

If a person with fever cannot swallow aspirin, grind it up, mix it with some water, and put it up the anus as an *enema* or with a syringe without the needle Some doctors consider acetaminophen (paracetamol) safer than aspirin for small children For the dosage see p 415)

If a high fever does not go down soon or if fits (convulsions) begin, continue cooling with water and seek medical help at once.

SHOCK

Shock is a life-threatening condition that develops when the body's blood pressure drops dangerously low It can result from great pain, a large burn, losing a lot of blood, severe illnesses, dehydration, or severe allergic reaction

Signs of SHOCK:

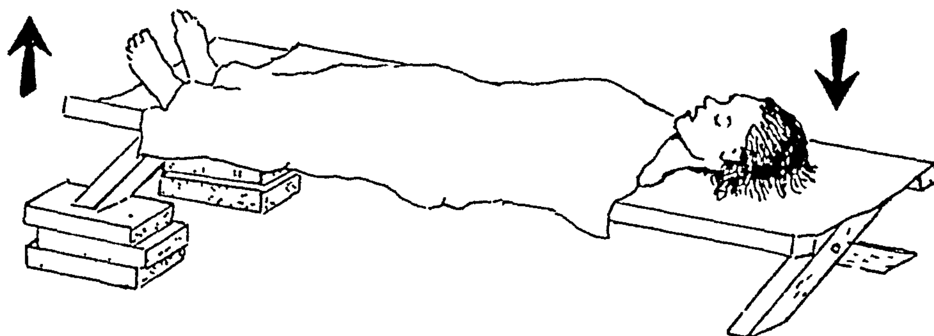
- weakness after fainting especially on standing up
- feels like vomitting
- cold damp skin
- too much sweating even in cold weather
- severe thirst
- restlessness, mental confusion or loss of consciousness

  weak rapid pulse (more then 100 per minute.)

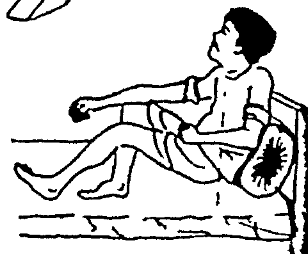
What to do to prevent or treat shock:

At the first sign of shock, or if there is risk of shock

- Have the person lie down with his feet higher than his head, like this



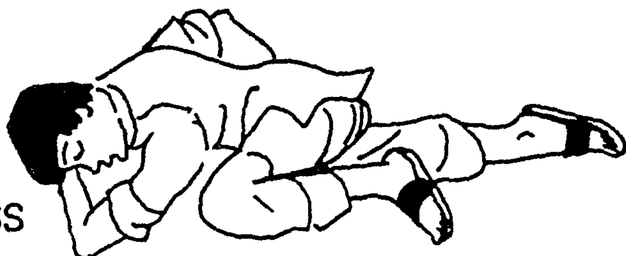
If the shock is due to a head injury.(p 104, 105) do not raise his feet Make him sit propped up (half sitting position against a pillow)like this



- If the person feels cold, cover him with a blanket
- If he is conscious, give him warm water or other lukewarm drinks If shock is due to injury (accidents, stab wounds, etc see p103)then do not give him anything to drink He may need surgery Get medical help fast
- If he is in pain, give him aspirin or another pain medicine
- Keep calm and reassure the person
- If shock is due to allergic reaction, for treatment see page 83

If the person is unconscious

- Lay him on his side with his head low, tilted back and to one side. If he seems to be choking, pull his tongue forward with your finger
- If he has vomited, clear his mouth immediately Be sure his head is low, tilted back, and to one side so he does not breathe vomit into his lungs
- Do not give him anything by mouth until he becomes conscious
- If you or someone nearby knows how, give intravenous solution (normal saline) at a fast drip
- Seek medical help fast



LOSS OF CONSCIOUSNESS

Common causes of loss of consciousness are

- drunkenness
- a hit on the head (getting knocked out)
- shock (p 89)
- poisoning (p 116)
- **Diabetes** (p149)
- fainting (from fright, weakness, etc)
- heat stroke (p 94)
- stroke (p. 373)
- heart attack (p 371)
- **Epilepsy** (p 216)

If a person is unconscious and you do not know why, **immediately check each of the following:**

1 Is he **breathing** well? If not, tilt his head way back and pull the jaw and tongue forward. If something is stuck in his throat, pull it out If he is not breathing, use mouth-to-mouth breathing at once (see p 92)

2 Is he **losing a lot of blood?** If so, control the bleeding (see p 95)

3 Is he in **shock** (moist, pale skin, weak, rapid pulse)? If so, lay him with his head lower than his feet and loosen his clothing

4 Could it be **heat stroke** (no sweat, high fever, hot, red skin, see p 94)? If so, shade him from the sun, keep his head higher than his feet, and soak him with cold water (ice water if possible)

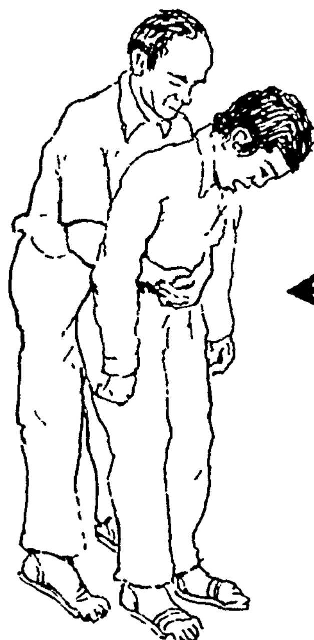
If there is any chance that the unconscious person is badly injured:

It is best not to move him until he becomes conscious If you have to move him, do so with great care, because if his neck or back is broken, any change of position may cause greater injury

Look for wounds or broken bones, but move the person as little as possible Do not bend his back or neck

Never give anything by mouth to a person who is unconscious.

WHEN SOMETHING GETS STUCK IN THE THROAT



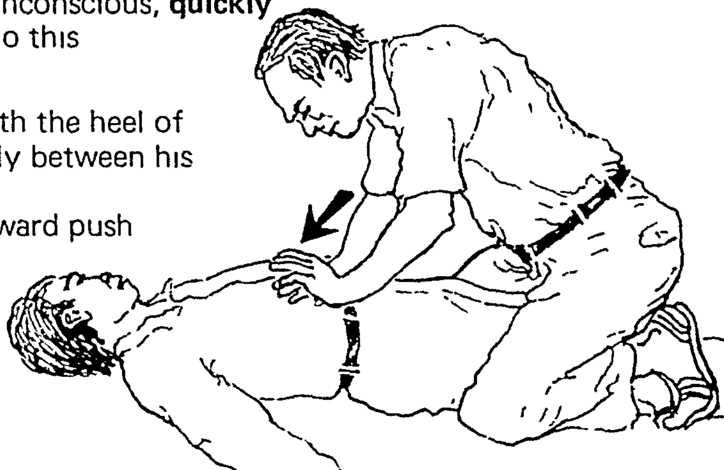
When food or something else sticks in a person's throat and he cannot breathe, **quickly** do this

- Stand behind him and wrap your arms around his waist,
- put your fist against his belly above the navel and below the ribs,
- and press into his belly with a **sudden** strong upward jerk

This forces the air from his lungs and should free his throat Repeat several times if necessary

If the person is a lot bigger than you, or is already unconscious, **quickly** do this

- Lay him on his back.
- Sit over him like this, with the heel of your lower hand on his belly between his navel and ribs
- Make a quick, strong upward push
- Repeat several times if necessary
- If he still cannot breathe, try **mouth-to-mouth breathing** (see next page).

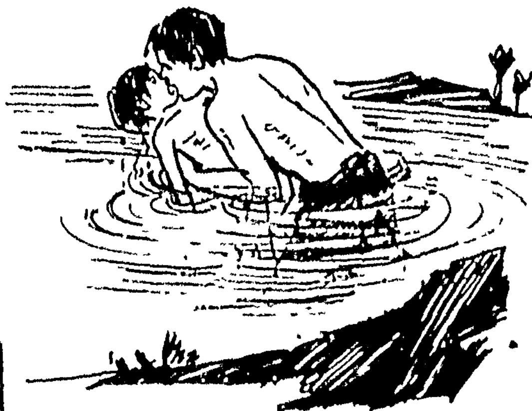


DROWNING

A person who has stopped breathing has only 4 minutes to live! You must **act fast!**

Start mouth-to-mouth breathing at once (see next page)—if possible, even before the drowning person is out of the water, as soon as it is shallow enough to stand

If you cannot blow air into his lungs, when you reach the shore, quickly put him with his head lower than his feet and push his belly as described above. Then continue mouth-to-mouth breathing at once



ALWAYS START MOUTH-TO-MOUTH BREATHING AT ONCE before trying to get water out of the drowning person's stomach.

When a person is having trouble with his breathing:

- his lips, nails and tongue turn blue in color
- pulse is slow and irregular
- breathing is irregular or absent
- he may lose consciousness

WHAT TO DO WHEN BREATHING STOPS: MOUTH-TO-MOUTH BREATHING

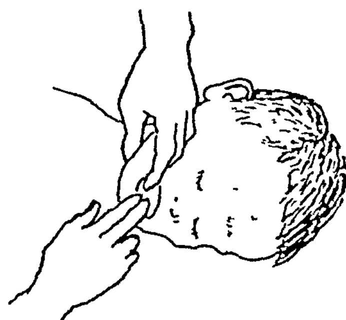
Common causes for breathing to stop are:

- something stuck in the throat
- the tongue or thick mucus blocking the throat of an unconscious person
- drowning, choking on smoke, or poisoning
- a strong blow to the head or chest
- a heart attack

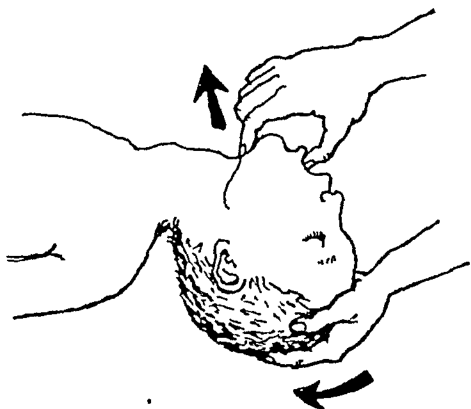
A person will die within 4 minutes if he does not breathe.

If a person stops breathing, begin mouth-to-mouth breathing IMMEDIATELY.

Do all of the following as quickly as you can

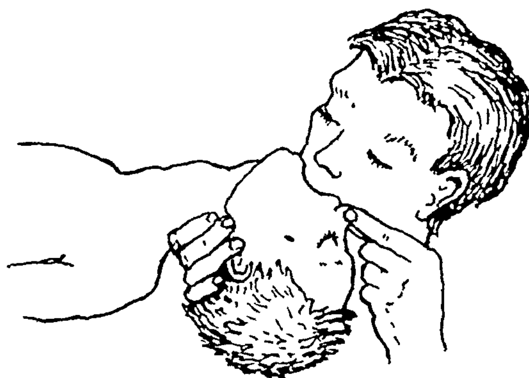


Step 1: Quickly remove anything stuck in the mouth or throat Pull the tongue forward If there is mucus in the throat, quickly try to clear it out



Step 2: Quickly lay the person face up, tilt his head way back, and pull his jaw forward

Step 3: Pinch his nostrils closed with your fingers, open his mouth wide, cover his mouth with yours, and blow strongly into his lungs so that his chest rises Pause to let the air come back out and blow again Repeat about 15 times per minute With newborn babies, breathe **very gently** about 25 times per minute



Continue **mouth-to-mouth breathing** until the person can breathe by himself, or until there is no doubt he is dead Sometimes you must keep it up for an hour or more.

EMERGENCIES CAUSED BY HEAT

Heat Cramps



In hot weather people who work hard and sweat a lot sometimes get painful cramps in their legs, arms, or stomach These occur because the body lacks salt

Treatment. Put a teaspoon of salt in a liter of boiled water and drink it You can add a little sugar and lime juice to the drink

Heat Exhaustion

Signs: A person who works and sweats a lot in hot weather may become very pale and weak and perhaps feel faint The skin is cool and moist The pulse is rapid and weak The most striking thing is that on a very hot day the skin is cold and moist

Treatment Have the person lie down in a cool place, raise his feet, and rub his legs Give salt water to drink 1 teaspoon of salt in a liter of water (Give nothing by mouth while the person is unconscious)

Heat Stroke

Heat stroke is not common, but is very dangerous It occurs especially in older people and *alcoholics* during hot weather

Signs The skin is red, very hot, and dry Not even the armpits are moist The person has a very high fever, sometimes more than 42° C Often he is unconscious

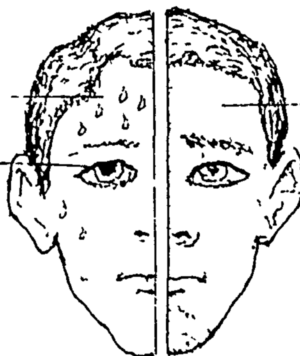
Treatment **The body temperature must be lowered immediately.**

- Put the person in the shade
- Take off his clothes and pour cold water over him
- Fan him
- Give ice cold water enema
- Take the temperature every 10 minutes
- When the temperature comes down to 38°, stop pouring cold water on him, and
- Seek medical help

DIFFERENCES BETWEEN 'HEAT EXHAUSTION' AND 'HEAT STROKE':

HEAT EXHAUSTION

- sweaty, pale, cool skin
- large pupils
- no fever
- weakness



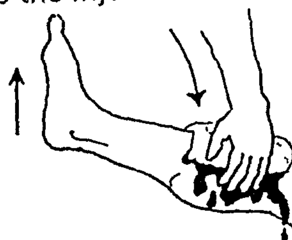
HEAT STROKE

- dry, red, hot skin
- high fever
- the person is very ill or unconscious

To avoid all these emergencies due to too much heat, always drink plenty of water with salt throughout the day in summer.

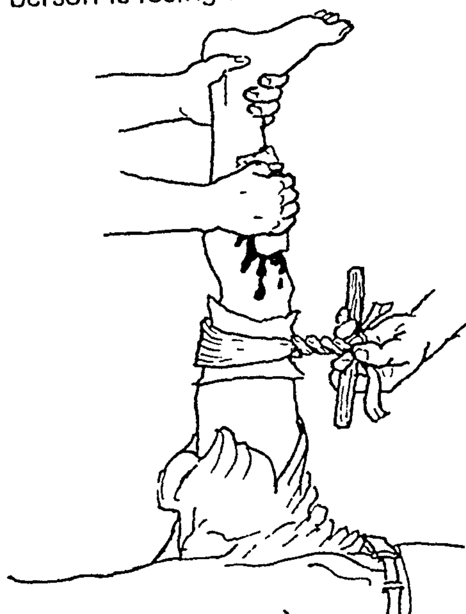
HOW TO CONTROL BLEEDING FROM A WOUND

1 Raise the injured part



2 With a clean cloth (or your hand if there is no cloth) press directly on the wound Keep pressing until the bleeding stops This may take 15 minutes or sometimes an hour or more

3 If the bleeding cannot be controlled by pressing on the wound, and if the person is losing a lot of blood, do the following



- Keep pressing on the wound.
- Keep the wounded part as high as possible
- Tie the arm or leg as close to the wound as possible—between the wound and the body Tighten enough to control the bleeding
Do not make it so tight that the arm or leg becomes blue.
- For the tie, use a folded cloth or a wide belt, never use thin rope, string, or wire

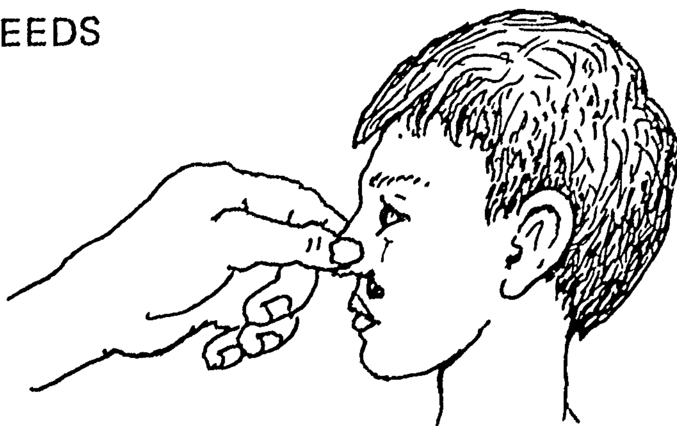
PRECAUTIONS:

- Tie the limb only if bleeding is severe and cannot be controlled by pressing directly on the wound
- Loosen the tie for a moment every half hour to see if it is still needed and to let the blood circulate Leaving it too long may damage the arm or leg so much it must be cut off
- **Never use dirt, cowdung, kerosene, lime, or coffee to stop bleeding.**
- If bleeding or injury is severe, raise the feet and lower the head to prevent shock (see p 89)

HOW TO STOP NOSEBLEEDS

1. Sit quietly

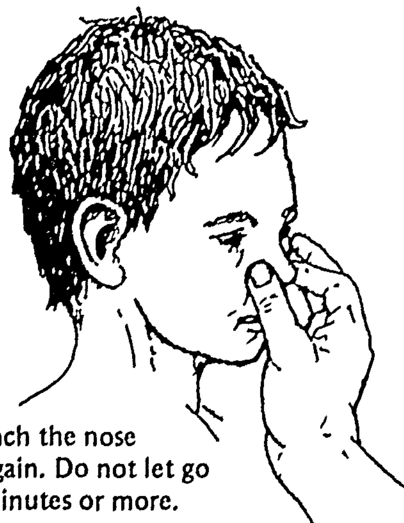
2. Pinch the nose firmly for 10 minutes or until the bleeding has stopped



If this does not control the bleeding . .



Pack the nostril with a wad of cotton, leaving part of it outside the nose. If possible, first wet the cotton with hydrogen peroxide, *Vaseline,* cardon cactus juice or lidocaine with epinephrine (p 415).



Then pinch the nose firmly again. Do not let go for 10 minutes or more.

Leave the cotton in place for a few hours after the bleeding stops, then take it out very carefully.

Do not dig into the nose or try to remove clotted blood. Bleeding will start again

If a person's nose bleeds often, smear a little *Vaseline* inside the nostrils twice a day.

Eating oranges, tomatoes, and other fruits may help to strengthen the small tl blood vessels so that the nose bleeds less

In older persons especially, bleeding may come from the back part of the nose and cannot be stopped by pinching it. In this case, have the person hold a cork, corn cob, or other similar object between his teeth and, leaning forward, sit quietly and try not to swallow until the bleeding stops. (The cork helps keep him from swallowing, and that gives the blood a chance to clot.)



CUTS, SCRAPES, AND SMALL WOUNDS

Cleanliness is of first importance in preventing infection and helping wounds to heal.

To treat a wound

First, wash your hands very well with soap and water

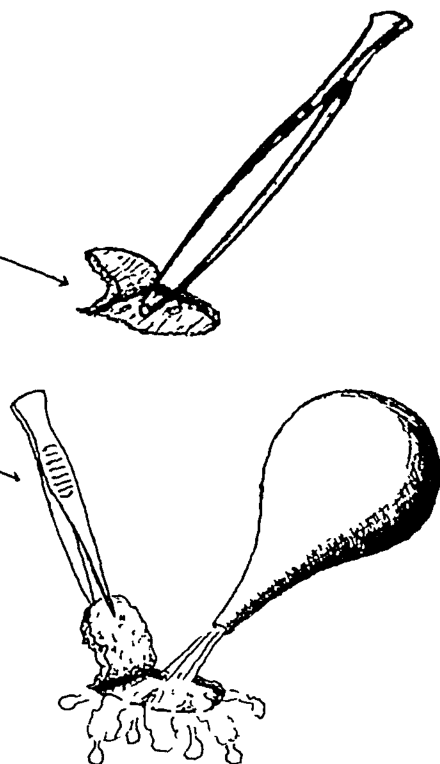
Then wash the wound well with soap and boiled water



When cleaning the wound, be careful to clean out all the dirt Lift up and clean under any flaps of skin You can use a clean tweezers or other instruments to remove bits of dirt, but always boil them first to be sure they are sterile

If possible, squirt out the wound with boiled water in a syringe or suction bulb

Any bit of dirt that is left in a wound can cause an infection



NEVER put animal or human feces or mud on a wound. These can cause dangerous infections, such as tetanus.

A clean wound will heal without any medicine.

If a person gets a cut, scrape **or wound, give him an injection** of tetanus toxoid immediately If he has **not been immunized against tetanus, give him one injection *each month for the next two months.***

LARGE CUTS: HOW TO CLOSE THEM

A recent cut that is very clean will heal faster if you bring the edges together so the cut stays closed

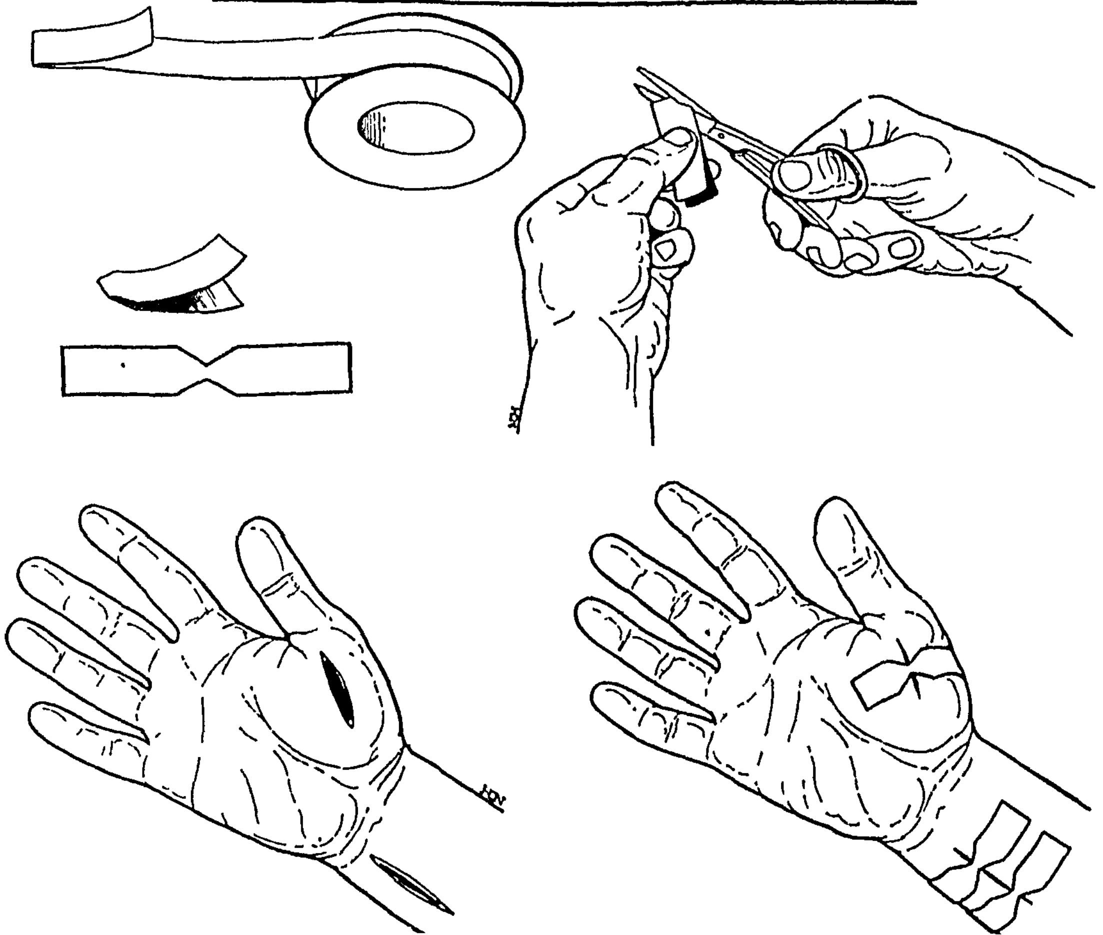
Close a deep cut only if all of the following are true

- the cut is less than 12 hours old
- the cut is very clean, and
- it is impossible to get a health worker to close it the same day

Before closing the cut, wash it very well with boiled water and soap. If possible, squirt it out with a syringe and water Be absolutely sure that no dirt is left hidden in the cut

There are two methods to close a cut

'BUTTERFLY' BANDAGES OF ADHESIVE TAPE

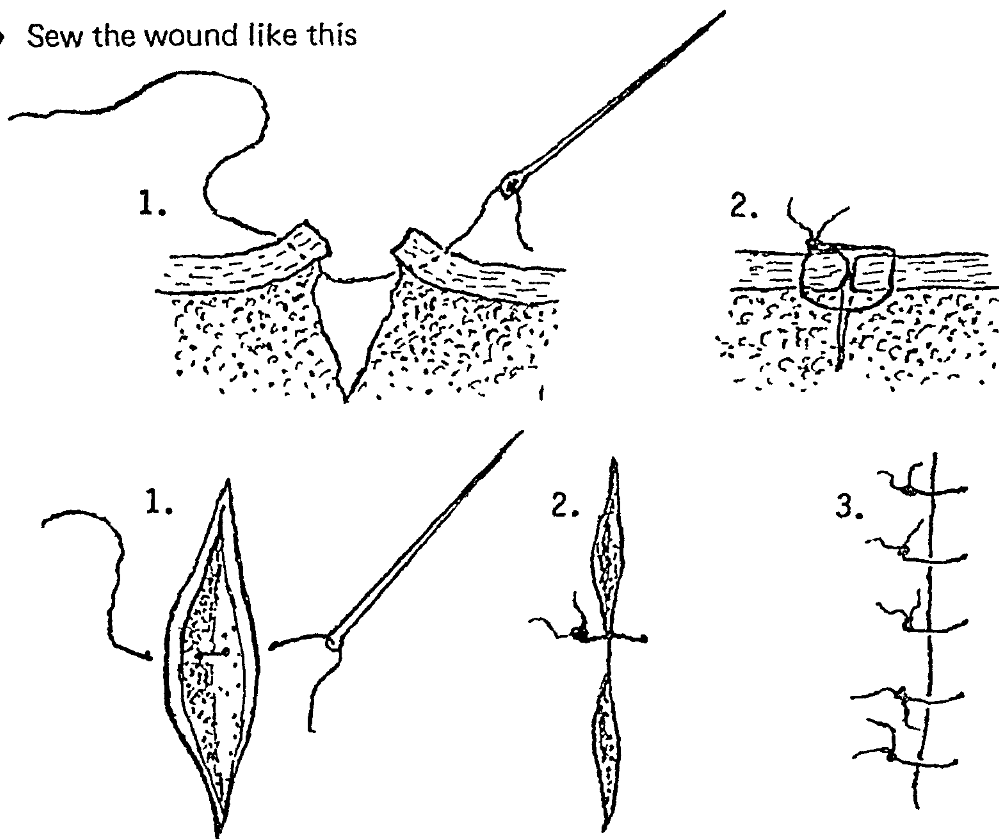


STITCHES OR SUTURES WITH THREAD

To find out if a cut needs stitches see if the edges of the skin come together by themselves If they do, usually no stitches are needed

To stitch a wound

- Boil a sewing needle and a thin thread (nylon or silk is best) for 10 minutes.
- Wash the wound with boiled water and soap, as has been described.
- Wash your hands very well with boiled water and soap.
- Sew the wound like this



Make the first stitch in the middle of the cut, and tie it closed (1. and 2.).

Make enough other stitches to close the whole cut (3).

Leave the stitches in place for 6 to 12 days (on the face 6 days, the body 8 days; the hand or foot 12 days). Then remove the stitches cut the thread on one side of the knot and pull the knot until the thread comes out

WARNING: Only close wounds that are very clean and less than 12 hours old Old, dirty, or infected wounds must be left open Bites from people, dogs, pigs, or other animals should also be left open Closing these can cause dangerous infections

If the wound that has been closed shows any signs of infection, remove the stitches immediately and leave the wound open (see p. 101).

BANDAGES

Bandages are used to help keep wounds clean For this reason, bandages or pieces of cloth used to cover wounds must always be clean themselves Cloth used for bandages should be washed and then dried with an iron or in the sun, in a clean, dust-free place.

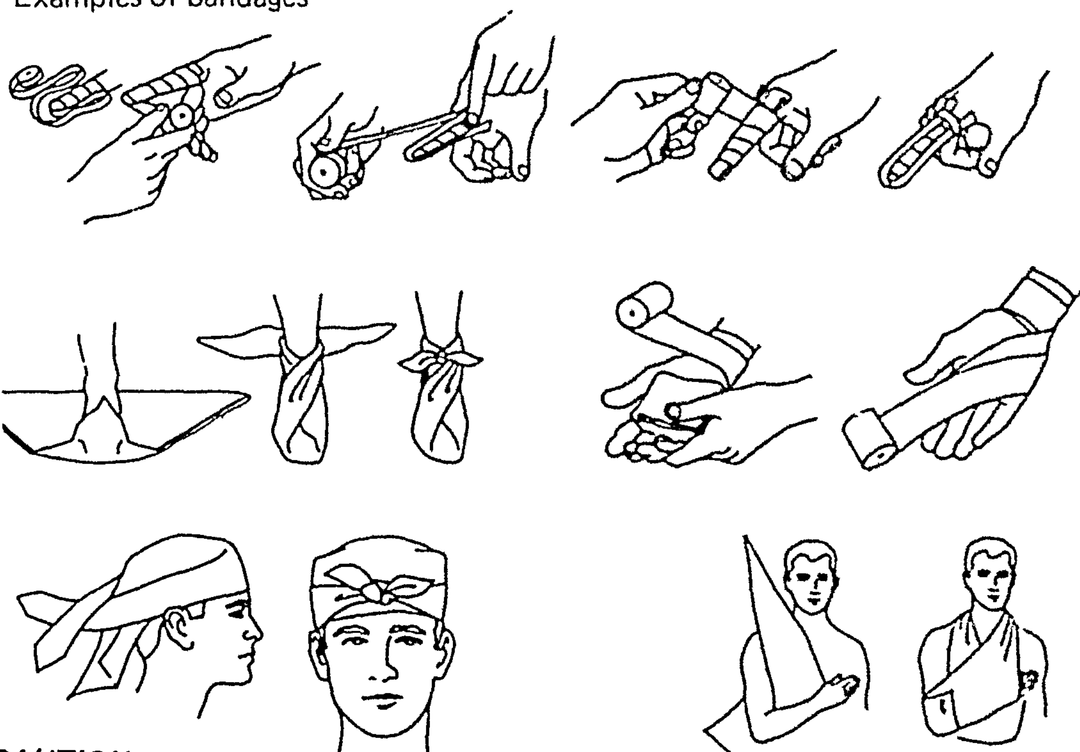
If possible, cover the wound with a sterile gauze pad before bandaging. These pads are often sold in sealed envelopes in pharmacies

Or prepare your own sterile gauze or cloth. Wrap it in thick paper, seal it with tape, and bake it for 20 minutes in an oven Putting a pan of water in the oven under the cloth will keep it from charring.

It is better to have no bandage at all than one that is dirty or wet.

If a bandage gets wet or dirt gets under it, take the bandage off, wash the cut again, and put on a clean bandage.

Examples of bandages



CAUTION:

Be careful that a bandage that goes around a limb is not so tight it cuts off the flow of blood.

Many small scrapes and cuts do not need bandages. They heal best if washed with soap and water and left open to the air. The most important thing is to **keep them clean.**

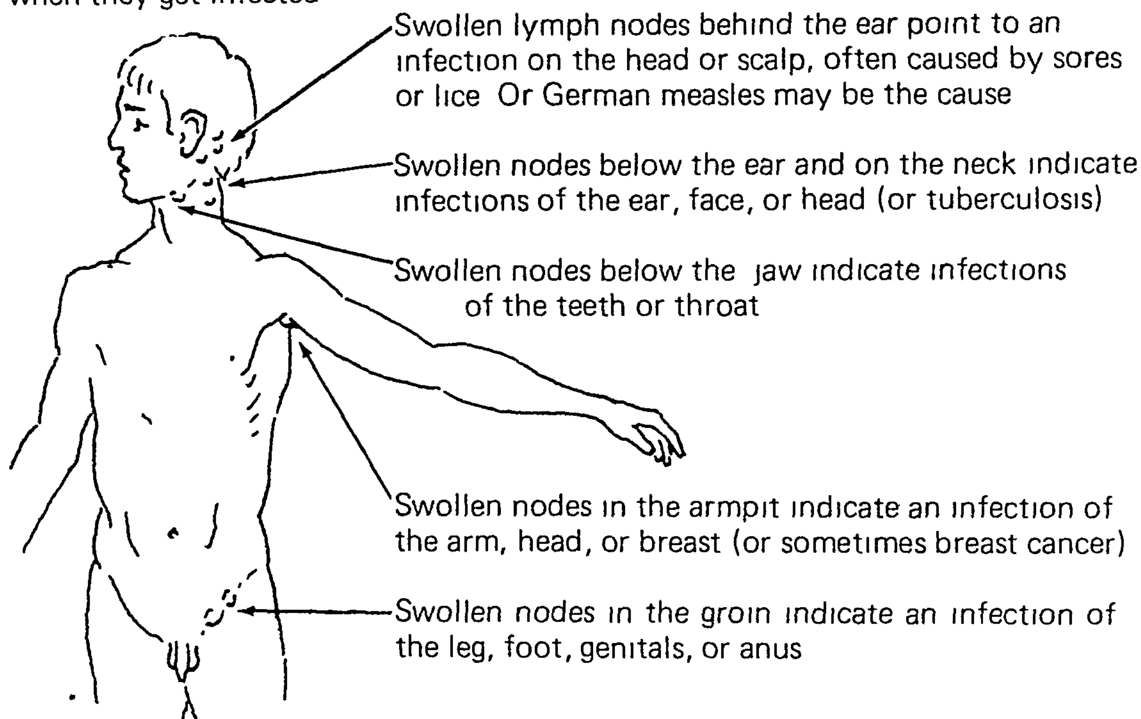
INFECTED WOUNDS: HOW TO RECOGNIZE AND TREAT THEM

A wound is infected if:

- it becomes **red, swollen, hot,** and **painful,**
- it has **pus,**
- or if it begins to **smell bad.**

The infection is spreading to other parts of the body if:

- it causes **fever,**
- there is a **red line above the wound,**
- or if the **lymph nodes become swollen and tender.** Lymph nodes—often called 'glands'—are little traps for germs that form small lumps under the skin when they get infected



Treatment of infected wounds

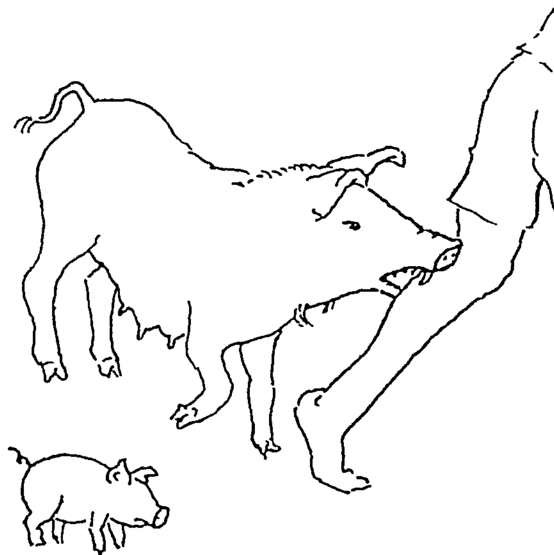
- Put hot compresses over the wound for 20 minutes 4 times a day You use hot water with salt, soap or potassium permanganate for the compre
- Keep the infected part at rest and elevated (raised above the level of the heart)
- If the infection is severe or the person has not been vaccinated against tetanus, use an antibiotic like penicillin (see p 397, 398) and vaccinate against tetanus

WARNING If the wound has a bad smell, if brown or gray liquid oozes out, or if the skin around it turns black and forms air bubbles or blisters, this may be gangrene Seek medical help fast Meanwhile, follow the instructions for gangrene on p 254)

WOUNDS THAT ARE LIKELY TO BECOME DANGEROUSLY INFECTED

These wounds are most likely to become dangerously infected:

- dirty wounds, or wounds made with dirty objects
- puncture wounds and other deep wounds that do not bleed much
- wounds made where animals are kept in cowsheds, pigpens etc
- large wounds with severe mashing or bruising
- bites, especially from pigs, dogs, or people
- bullet wounds



Special care for this type of 'high risk' wound:

1 Wash the wound well with boiled water and soap **Remove all pieces of dirt, blood clots, and dead or badly damaged flesh.** Squirt out the dirt using a syringe or suction bulb

2 Soak the wound in water with potassium permanganate (1 teaspoon to a bucket) Then paint the wound with gentian violet and cover it with a clean bandage.

3 If the wound is very deep, if it is a bite, or if there is a chance that it still has dirt in it, use an antibiotic The best is ampicillin, in capsules or, in the most serious cases, injections If you cannot afford ampicillin, use penicillin, tetracycline, or a sulfa For dosages, see the GREEN PAGES

4. **Never** close this type of wound with stitches or 'butterfly' bandages **Leave the wound open.**

The danger of tetanus is very great in people who have not been vaccinated against this deadly disease. To lower the risk, a person who has not been vaccinated against tetanus should use penicillin or ampicillin immediately after receiving a wound of this type, even if the injury is small

If a wound of this type is very severe, a person who has not been vaccinated against tetanus should take large doses of penicillin or ampicillin for a week or more. Tetanus antitoxin should also be considered—but be sure to take the necessary precautions in its use (see p 83)

BULLET, KNIFE, AND OTHER SERIOUS WOUNDS

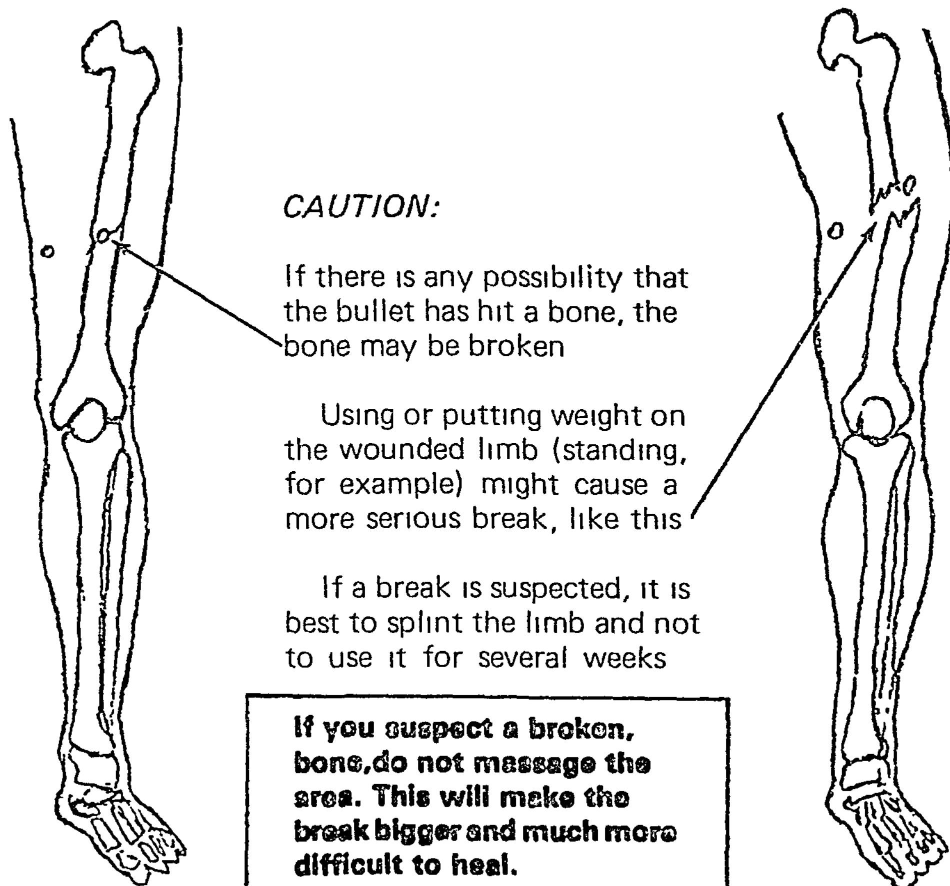
Danger of infection: Any deep bullet or knife wound runs a high risk of dangerous infection For this reason an antibiotic, preferably penicillin (p.397) or ampicillin (p. 399) should be used at once

Persons who have not been vaccinated against tetanus should perhaps be given an injection of tetanus antitoxin, and be vaccinated against tetanus as well

If possible, seek medical help

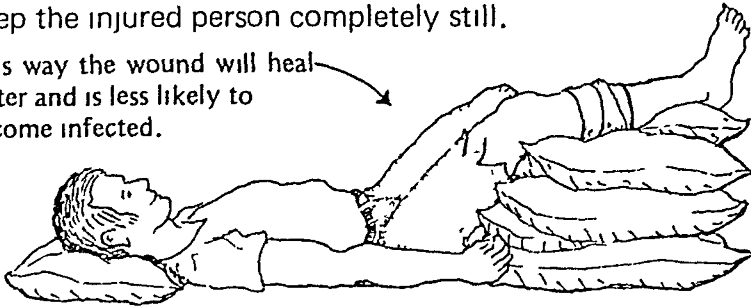
Bullet Wounds in the Arms or Legs

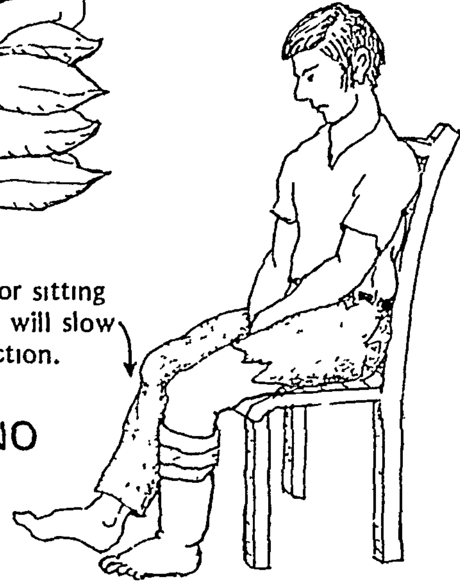
- If the wound is bleeding a lot, control the bleeding as shown on page 95.
- If the bleeding is not serious, let the wound bleed for a short while. This will help clean it out
- Wash the wound with boiled water and soap and apply a clean bandage. In the case of a gunshot wound, wash the surface (outside) only It is usually better not to poke anything into the hole
- Give antibiotics



When the wound is serious, raise the wounded part higher than the heart and keep the injured person completely still.

This way the wound will heal faster and is less likely to become infected.





Walking on an injured leg or sitting with the leg hanging down will slow healing and encourage infection.

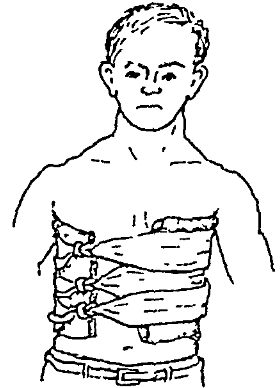


Make a sling like this to support an arm with a gunshot wound or other serious injury.

Deep Chest Wounds

Chest wounds can be very dangerous Seek medical help at once

- If the wound has reached the lungs and air is being sucked through the hole when the person breathes, cover the wound at once so that no more air enters Spread *Vaseline* or vegetable fat on a gauze pad or clean bandage and wrap it tightly over the hole like this.



If you do not have Vaseline or vegetable oil, fold some clean cloth into a pad, place it on the wound and bandage firmly

- This is a serious condition Seek medical help at once Meanwhile, put the injured person in the position in which he feels most comfortable

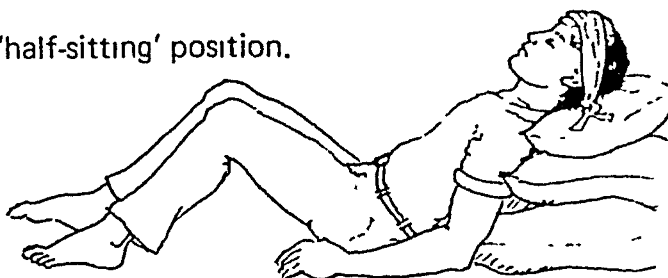
- If there are signs of shock, give proper treatment (see p.89)

- Give antibiotics and painkillers

Bullet Wounds in the Head

- Cover the wound with a clean bandage

- Place the injured person in a 'half-sitting' position.
- Give antibiotics (penicillin)
- Seek medical help.

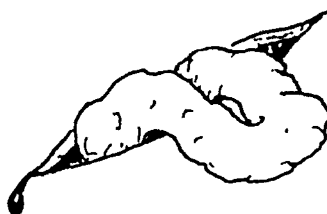


Deep Wounds in the Abdomen

Any wound that goes into the belly or gut is dangerous **Seek medical help immediately.** But in the meantime

Cover the wound with a clean bandage

If the guts are partly outside the wound, cover them with a clean cloth soaked in lightly salted, boiled water Do not try to push the guts back in



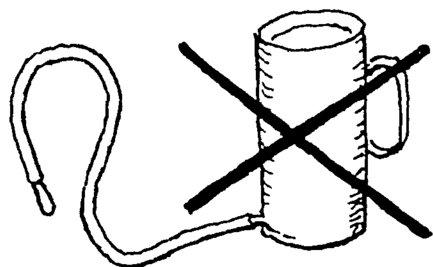


If the wounded person is in shock, raise his feet higher than his head

Give absolutely nothing by mouth: no food, no drink, not even water

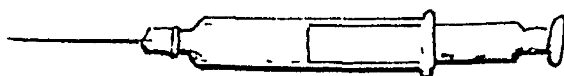
If the wounded person is thirsty, let him suck on a piece of cloth soaked in water

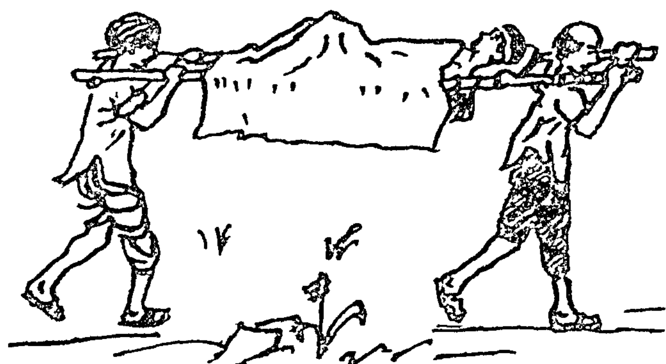




Never give an enema, even if the stomach swells up or the injured person does not move his bowels for days If the gut is torn, an enema or purge can kill him

Inject antibiotics (see the following page for instructions).





DO NOT WAIT FOR A HEALTH WORKER.

IMMEDIATELY TAKE THE INJURED PERSON TO THE CLOSEST HEALTH CENTER OR HOSPITAL. He will need an operation

MEDICINE FOR A WOUND THAT GOES INTO THE GUT
(Also for appendicitis or peritonitis)

Until you can get medical help, do the following

Inject penicillin (crystalline, if possible, p 398), immediately

Inject ampicillin (p 399), 1 gm (four 250 mg ampules) every 4 hours

If you cannot obtain these anitbiotics in injectable form, give ampicillin or penicillin by mouth together with chloramphenicol or tetracycline, and very little water

EMERGENCY PROBLEMS OF THE GUT (ACUTE ABDOMEN)

Acute abdomen is a name given to a number of sudden, severe conditions of the gut for which prompt surgery is often needed to prevent death Appendicitis, peritonitis and gut obstruction are examples (see following pages) Often the exact cause of acute abdomen will be uncertain until a surgeon cuts open the belly and looks inside.

If a person has continuous severe gut pain with vomiting, but does not have diarrhea, suspect an acute abdomen.

Acute abdomen:

Take to a hospital—surgery may be needed

- continuous severe pain that keeps getting worse
- **Constipation and green coloured foul smelling vomiting**
- belly swollen, hard, person protects it
- severely ill

Less serious illness:

Probably can be treated in the home or health center

- pain that comes and goes (cramps)
- moderate or severe diarrhea
- sometimes signs of an infection, perhaps a cold or sore throat
- he has had pains like this before
- only moderately ill

If a person shows signs of acute abdomen, get him to a hospital as fast as you can.

Obstructed Gut

An acute abdomen may be caused by something that blocks or 'obstructs' a part of the gut, so that food and stools cannot pass More common causes are

- a ball or knot of roundworms (Ascaris, p 193)
- a loop of gut that is pinched in a hernia (p.215)
- a part of the gut that slips inside the part below it (intussusception)

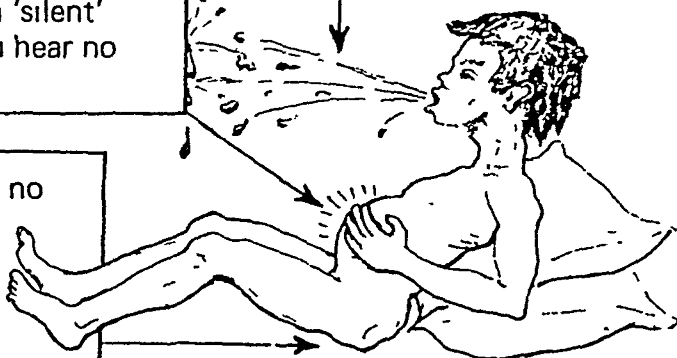
Almost any kind of acute abdomen may show some signs of obstruction Because it hurts the damaged gut to move, it stops moving.

Signs of an obstructed gut:

Steady, severe pain in the belly.

This child's belly is swollen, hard, and very **painful.** It hurts more when you touch it. He tries to protect his belly and keeps his legs doubled up His belly is often 'silent' (When you put your ear to it, you hear no sound of normal gurgles.)

Sudden vomiting with great force! The vomit may shoot out a meter or more. It may have green bile in it or smell and look like feces.



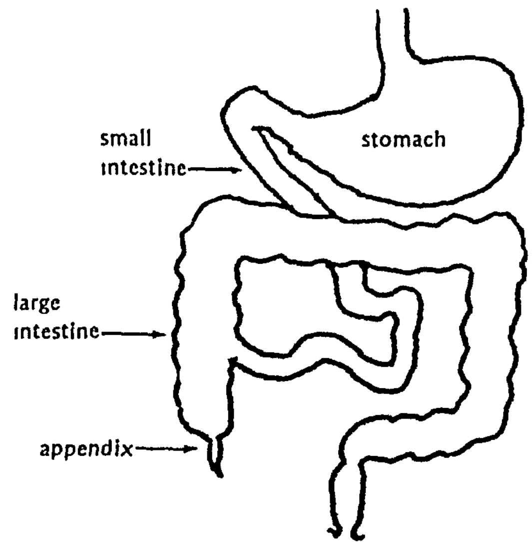
He is usually constipated (little or no bowel movements). If there is diarrhea, it is only a little bit. Sometimes all that comes out is some bloody mucus

Get this person to a hospital **at once.** His life is in danger and surgery may be needed.

Appendicitis, Peritonitis

These dangerous conditions often require surgery. **Seek medical help fast**

Appendicitis is an infection of the *appendix,* a finger-shaped sac attached to the large intestine in the lower right-hand part of the belly An infected appendix sometimes bursts open, causing *peritonitis.*

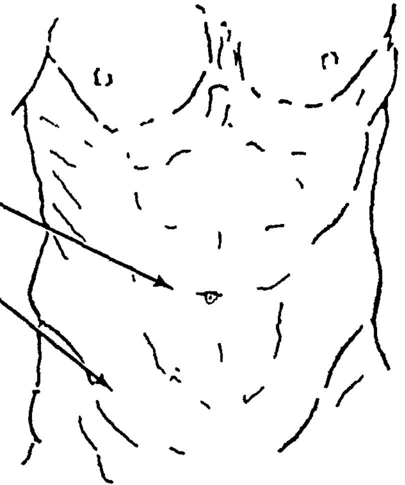


Peritonitis is an acute, serious infection of the lining of the cavity or bag that holds the gut It results when the appendix or another part of the gut bursts or is torn

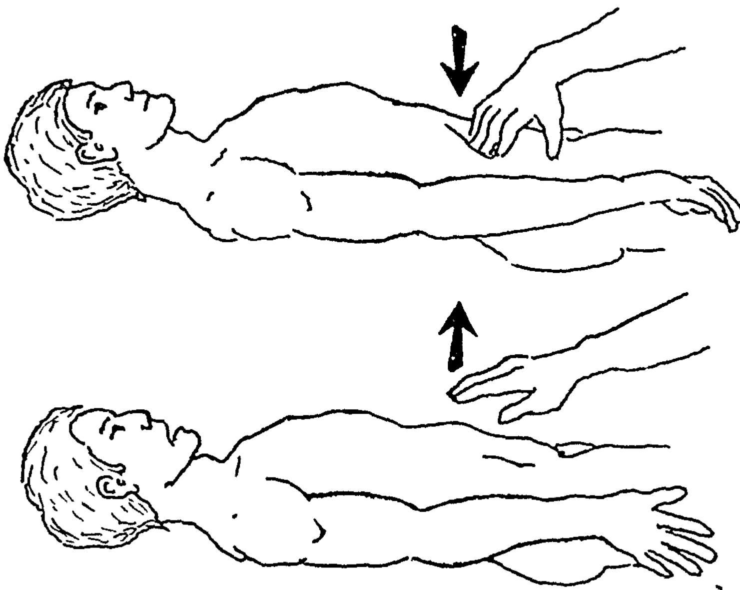
Signs of appendicitis:

- The main sign is a steady pain in the belly that gets worse and worse
- The pain often begins around the navel ('bellybutton'),

  but it soon moves to the lower right side
- There may be loss of appetite, vomiting, constipation, or a mild fever



A TEST FOR APPENDICITIS OR PERITONITIS:



Slowly but forcefully, press on the abdomen a little above the left groin until it hurts a little

Then quickly remove the hand

If a very sharp pain *(rebound pain)* occurs when the hand is removed, appendicitis or peritonitis is likely.

If no rebound pain occurs above the left groin, try the same test above the right groin

IF IT SEEMS THAT A PERSON HAS APPENDICITIS OR PERITONITIS:

- **Seek medical help immediately.** If possible, take the person where he can have surgery

- **Do not give anything by mouth** and do not give an enema. Only if the person begins to show signs of dehydration, give sips of water or Rehydration Drink (p 182) —but nothing more

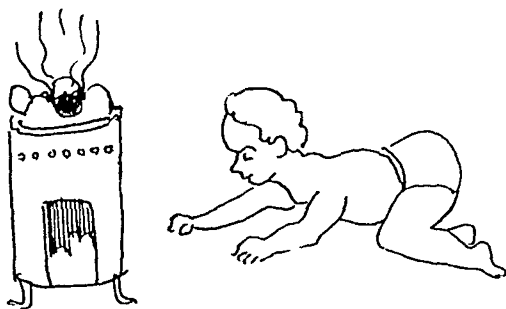
- The person should rest very quietly in a half-sitting position

Note: When peritonitis is advanced, the belly becomes hard like a board, and the person feels great pain when his belly is touched even lightly. His life is in danger. Take him to a medical center immediately and on the way give him the medicines indicated at the top of page 106.

BURNS

Prevention:

Most burns can be prevented Take special care with children



- Do not let small babies go near a fire
- Keep lamps and matches out of reach
- Turn handles of pans on the stove so children cannot reach them

Minor Burns that Do Not Form Blisters (1st degree)

To help ease the pain and lessen damage caused by a minor burn, put the burned part in cold water **at once.** No other treatment is needed. Take aspirin for pain

Burns that Cause Blisters (2nd degree)

Do not break blisters

If the blisters are broken, wash gently with soap and boiled water that has been cooled. Sterilize a little *Vaseline* by heating it until it boils and spread it on a piece of sterile gauze. Then put the gauze on the burn

If there is no *Vaseline*, put some *Gentian violet*, leave the burn uncovered

It is very important to keep the burn as clean as possible. Protect it from dirt, dust, and flies.

If signs of infection appear—pus, bad smell, fever, or swollen lymph nodes—apply compresses of potassium permanganate solution 3 times a day If potassium permanganate is not available, you can use warm salt water (1 teaspoon salt to 1 litre water) Boil both the water and cloth before use With great care, remove the dead skin and flesh You can spread on a little antibiotic ointment such as *Neosporin* (p 409). In severe cases, consider taking an antibiotic such as penicillin or ampicillin by mouth

Deep Burns (3rd degree) that destroy the skin and expose raw or charred flesh are always serious, as are any burns that cover large areas of the body Take the person to a health center at once In the meantime wrap the burned part with a very clean cloth or towel

If it is impossible to get medical help, treat the burn as described above. If you **do not have *vaseline*, put some gentian violet and leave the burn in the open air, covering it only with a loose cotton cloth or sheet to protect it from dust and flies.** Keep the cloth very clean and change it each time it gets dirty with liquid or blood from the burn Give penicillin

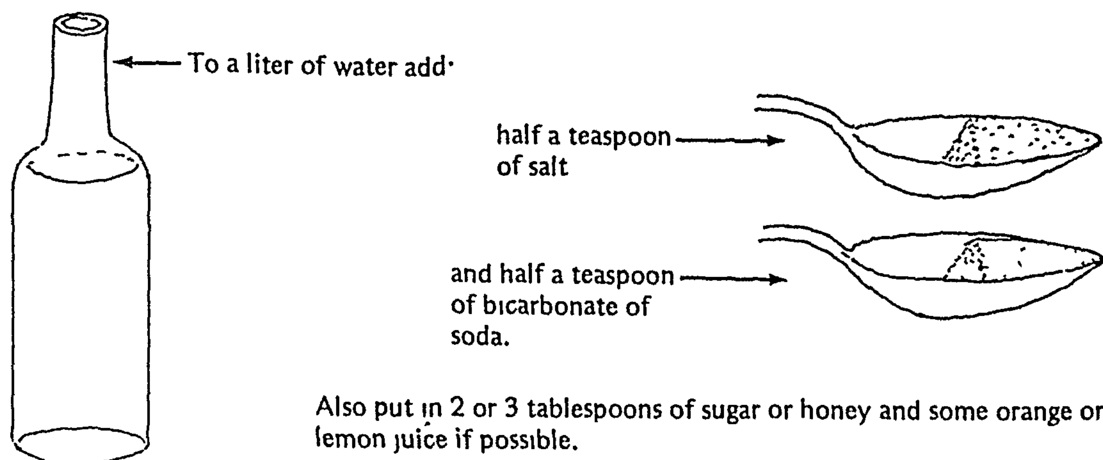
Never put grease, fat, hides, coffee, herbs, or feces on a burn.

Special Precautions for Very Serious Burns

Any person who has been badly burned can easily go into *shock* (see p 89) because of combined pain, fear, and the loss of body fluids from the oozing burn

Comfort and reassure the burned person. Give him *Paracetamol* for the pain and codein if you can get it. Bathing open wounds in slightly salty water also helps calm pain Put 1 teaspoon of salt for each liter of boiled (and cooled) water

Give the burned person plenty of liquid. If the burned area is large (more than twice the size of his hand), make up the following drink·

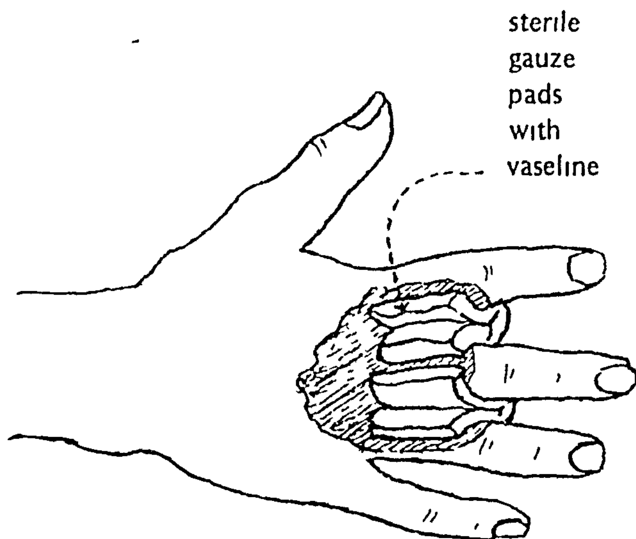


The burned person should drink this as often as possible, especially until he urinates frequently

It is important for persons who are badly burned to eat foods rich in protein (see p 128) He can also eat all other foods

Burns around the Joints

When someone is badly burned between the fingers, in the armpit, or at other joints, gauze pads with *Vaseline* on them should be put between the burned surfaces to prevent them from growing together as they heal Also, fingers, arms, and legs should be straightened completely several times a day while healing This is painful but helps prevent stiff scars that limit movement



BROKEN BONES (FRACTURES)

When a bone is broken, the most important thing to do is **keep the bone in a fixed position.** This prevents more damage and lets it mend

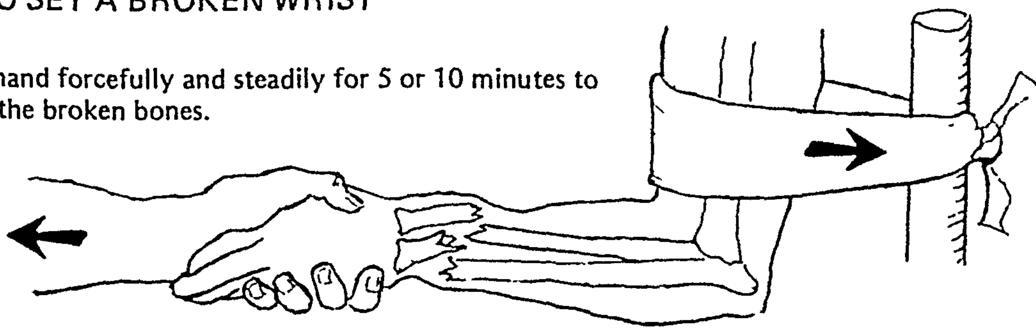
Before trying to move or carry a person with a broken bone, keep the bones from moving with splints, strips of bark, or a sleeve of cardboard Later a plaster cast can be put on the limb at a health center, or perhaps you can make a 'cast' according to local tradition

Setting broken bones: If the bones seem more or less in the right position, it is better not to move them—this could do more harm than good

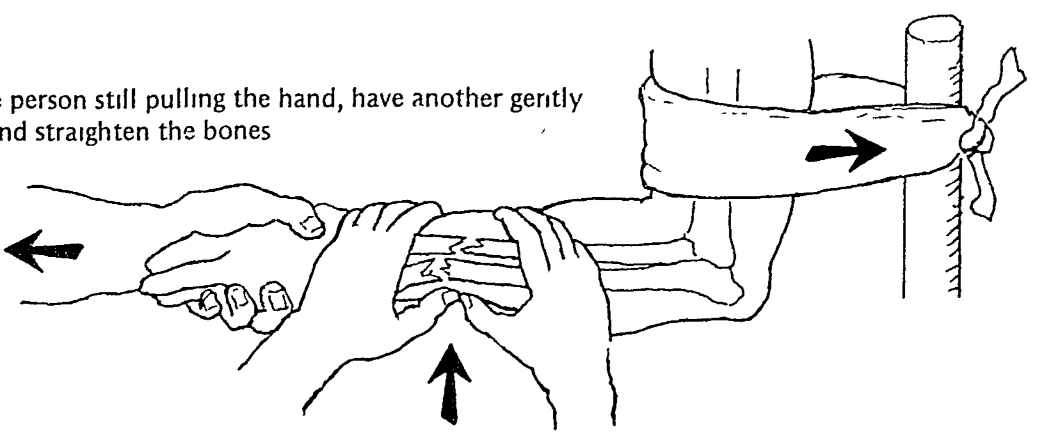
If the bones are far out of position and the break is recent, you can try to 'set' or straighten them before putting on a cast The sooner the bones are set, the easier it will be

HOW TO SET A BROKEN WRIST

Pull the hand forcefully and steadily for 5 or 10 minutes to separate the broken bones.



With one person still pulling the hand, have another gently line up and straighten the bones



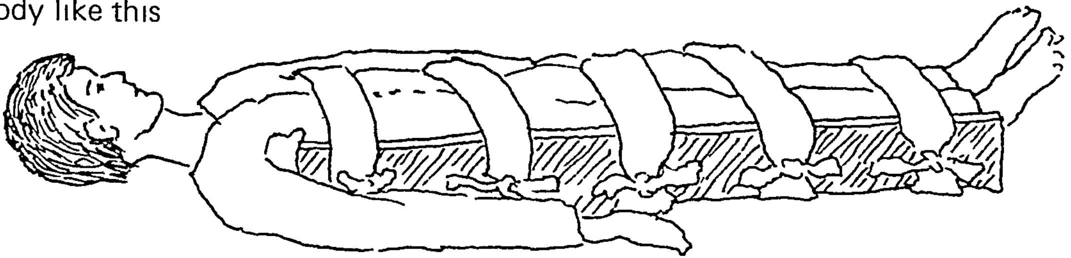
WARNING **It is possible to do a lot of damage while trying to set a bone. Ideally, it should be done with the help of someone with experience.**

HOW LONG DOES IT TAKE FOR BROKEN BONES TO HEAL?

The worse the break or the older the person, the longer healing takes Children's bones mend rapidly Those of old people sometimes never join A broken arm should be kept in a cast for about a month, and no force put on it for another month A broken leg should remain in a cast for about 2 months

BROKEN THIGH BONE

A broken upper leg often needs special attention It is best to splint the whole body like this



and to take the injured person to a health center at once

BROKEN NECKS AND BACKS

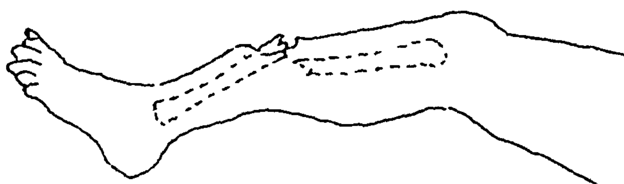
If there is any chance a person's back or neck has been broken, **be very careful when moving him.** Try not to change his position If possible, bring a health worker before moving him If you must move him, do so without bending his back or neck For instructions on how to move the injured person, see the next page

BROKEN RIBS

These are very painful, but almost always heal on their own It is better not to splint or bind the chest The best treatment is to take aspirin—and rest It may take months before the pain is gone completely

A broken rib does not often puncture a lung But if the person coughs blood or develops breathing difficulties, use antibiotics (penicillin or ampicillin) and seek medical help

BROKEN BONES THAT BREAK THROUGH THE SKIN (COMPOUND FRACTURES)



Since the danger of infection is very great in these cases, it is always better to get help from a health worker or doctor in caring for the injury Clean the wound and the exposed bone very thoroughly with boiled water **Never put the bone back into the wound until the wound and the bone are absolutely clean.**

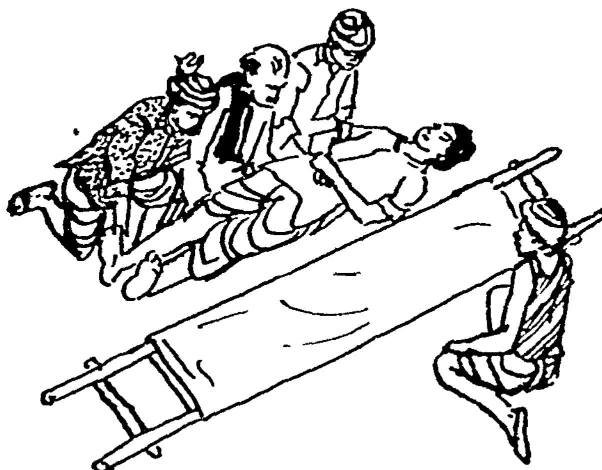
Splint the limb to prevent more injury

If the bone has broken the skin, use an antibiotic immediately to prevent infections penicillin or ampicillin in high doses (p 397 and 399)

> *CAUTION* **Never rub or massage a broken limb or a limb that may possibly be broken.**

HOW TO MOVE A BADLY INJURED PERSON

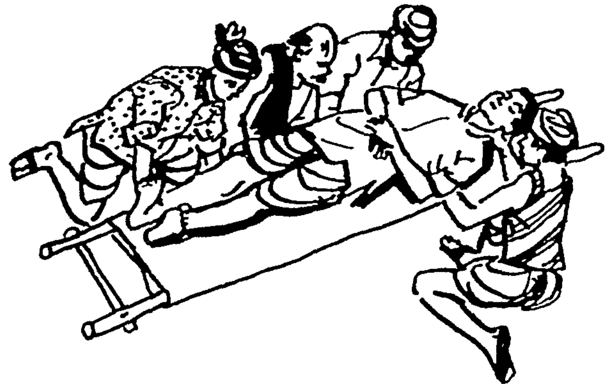
With great care, lift the injured person without bending him anywhere

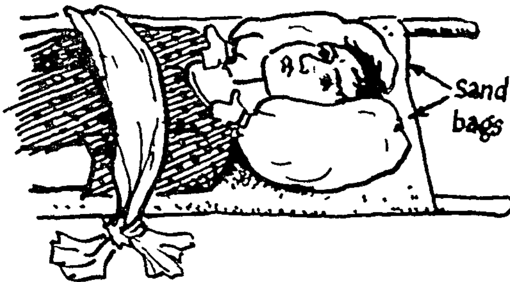




Have another person put the stretcher in place

With the help of everyone, place the injured person carefully on the stretcher





If the neck is injured or broken, put bags of sand or tightly folded clothing on each side of the head to keep it from moving

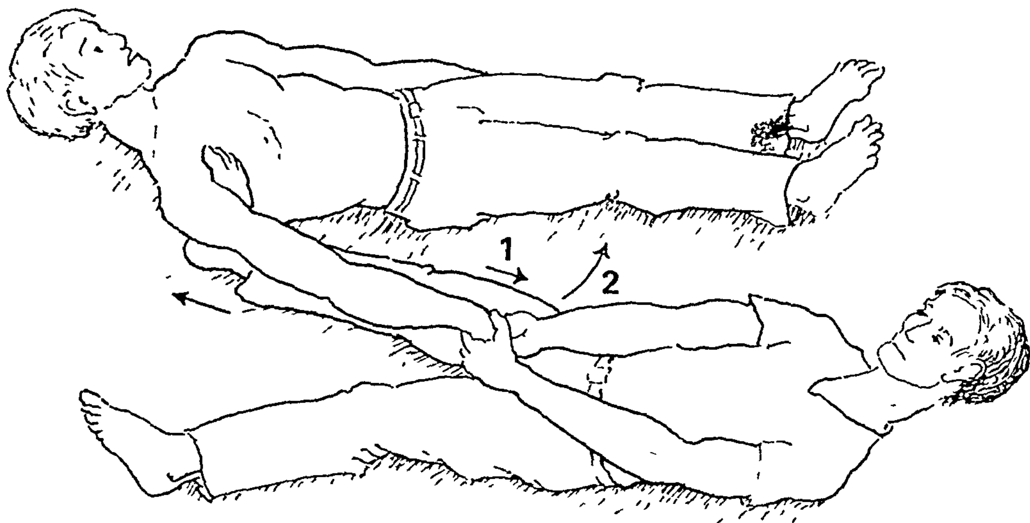
DISLOCATIONS
(BONES THAT HAVE COME OUT OF PLACE AT A JOINT)

Three important points of treatment:

- Try to put the bone back into place **The sooner the better!**
- Keep it bandaged firmly in place so it does not slip out again (about a month)
- Avoid forceful use of the limb long enough for the joint to heal completely (2 or 3 months)

HOW TO SET A DISLOCATED SHOULDER

Lie down on the floor next to the injured person Put your bare foot in his armpit and pull his arm slowly downward, at an angle to the body, as shown (1), using steady force for 10 minutes



Then swing the arm closer to his body, using your foot to position the bone (2) The shoulder should 'pop' back into place



After the shoulder is in place, bandage the arm firmly against the body Keep it bandaged for a month To prevent the shoulder from becoming completely stiff, older persons should unbandage the arm for a few minutes 3 times a day and, with the arm hanging at the side, move it gently in narrow circles

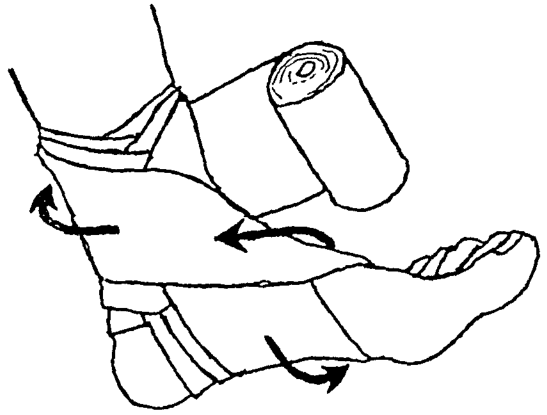
In case you cannot put the dislocated limb back in place, look for medical help at once The longer you wait, the harder it will be to correct

STRAINS AND SPRAINS (BRUISING OR TEARING IN A TWISTED JOINT)

Many times it is impossible to know whether a hand or foot is bruised, sprained or broken It helps to have an X-ray taken

But usually, breaks and sprains are treated more or less the same Keep the joint motionless Wrap it with something that gives firm support Serious sprains need at least 3 or 4 weeks to heal Broken bones take longer

You can keep the twisted joint in the correct position for healing by using an elastic bandage



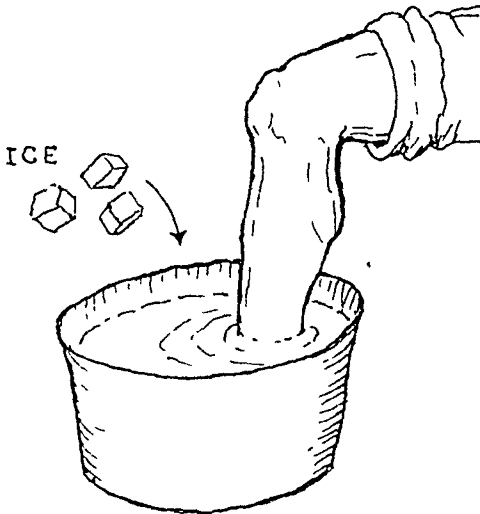
Wrap a twisted ankle as shown here

CAUTION: If the foot seems very loose or 'floppy' or if the person has trouble moving his toes, look for medical help Surgery may be needed

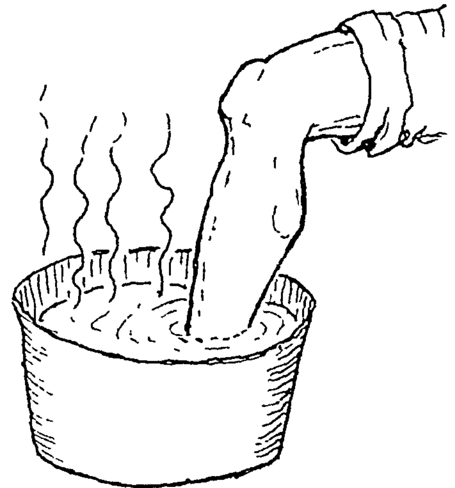
To relieve pain and swelling, keep the sprained part raised high During the first 24 hours, put ice or cold, wet cloths over the swollen joint This helps reduce swelling and pain Also take aspirin

After 24 hours soak the sprain in hot water several times a day

Never rub or massage a sprain or broken bone. It does no good and can do more harm



For the first day soak the sprained joint in cold water

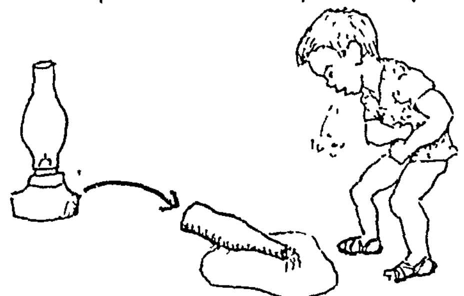


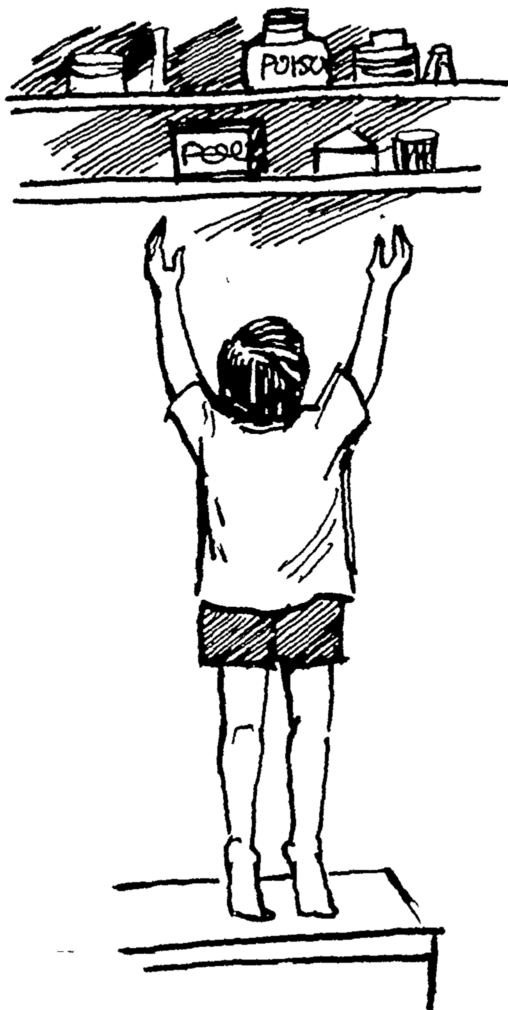
After the first day (24 hours) use hot soaks

POISONING

Many children die from swallowing things that are poisonous To protect your children, take the following precautions

Never keep kerosene, gasoline, or other poisons in cola or soft drink bottles, because children may try to drink them.





Keep all poisons out of reach of children:

SOME COMMON POISONS TO WATCH OUT FOR:

- rat poison
- DDT, lindane, sheep dip, and other insecticides
- medicine (any kind when much is swallowed, take special care with **iron pills**)
- tincture of iodine
- bleach and detergents
- cigarettes
- rubbing or wood alcohol
- poisonous leaves, seeds, or berries
- Paints
- unused matches - the tips are poisonous
- kerosene, gasoline, petrol
- lye

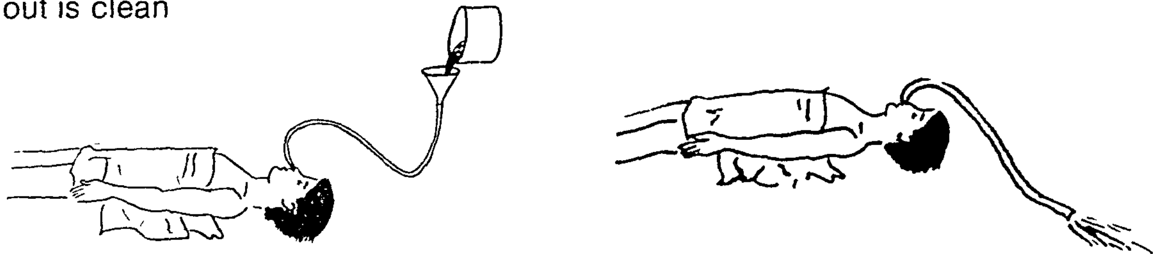
Treatment.

If you suspect poisoning, do the following **immediately:**

In a conscious person:

- Make the person vomit Put your finger in his throat, or tickle the back of his throat with a spoon, or make him drink warm water with a lot of salt in it

* If the person does not vomit, lay the person on a cot. Put in a well greased stomach tube through the mouth and pour in 1 to 2 liters of water through the funnel. Lower the end of the stomach tube below the level of the bed. The liquid in the stomach will come out. Continue doing this till the liquid coming out is clean.



* Have him drink all he can of milk, beaten eggs, or flour mixed with water. If you have it give him a tablespoon of powdered charcoal (p422). Keep giving him more milk, eggs or flour and water, and keep him vomiting until the vomit is clear.

If the person is unconscious

Do not make him vomit. If he has stopped breathing, then give mouth-to-mouth breathing. Seek medical help at once.

CAUTION Do not make a person vomit if he has swallowed kerosene, gasoline, petrol, or strong acids or corrosive substances like lye.

Cover the person if he feels cold, but avoid too much heat. **If poisoning is severe, look for medical help.**

Pesticide poisoning

Pesticides are substances used to prevent or kill the various pests like insects, rats, weeds, etc. that destroy the cultivated crops, or spread diseases (flies, mosquitoes). Poisoning occurs when people carelessly handle the pesticides, and do not take the necessary precautions, or when the person does not cover his nose and mouth when spraying pesticides, or if the person does not cover all his food and drinking water when his house is being sprayed.

Signs of pesticide poisoning

* Headache
* vomiting
* abdominal pain
* convulsions
* signs of shock (p. 89)
* difficulty in breathing
* loss of consciousness

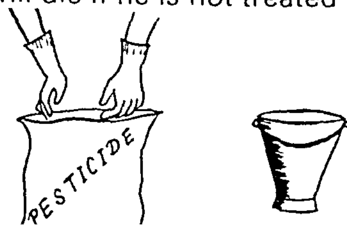
If first aid is not given immediately, the person will die.

What to do in pesticide poisoning

* remove the person from risk of further exposure
* If he has convulsions, give him a sedative (p 422) and protect him from harm and from biting his tongue
* **rush him to the health centre fast.** He will die if he is not treated immediately.

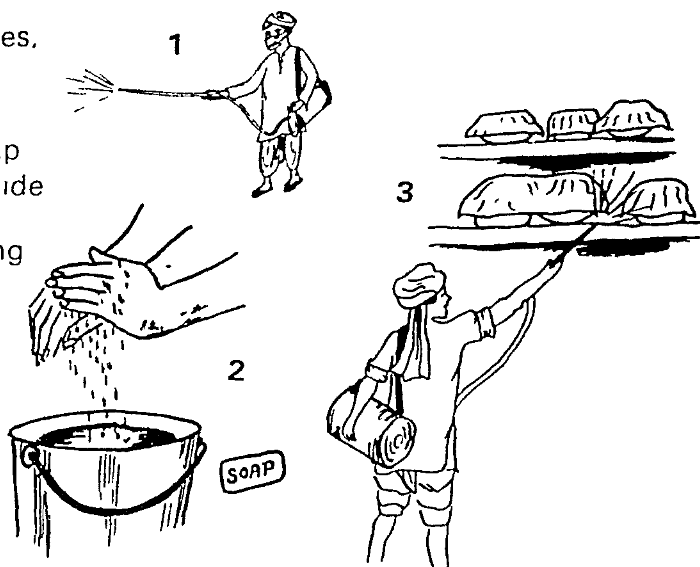
What to do to prevent poisoning

* Wear rubber gloves or wrap your hands in a polythene paper while handling the pesticides



- If you are spraying the pesticides, cover your nose and mouth with a cloth
- Wash your hands well with soap and water after handling any pesticide
- Cover all your food and drinking water when your house is being sprayed with pesticide

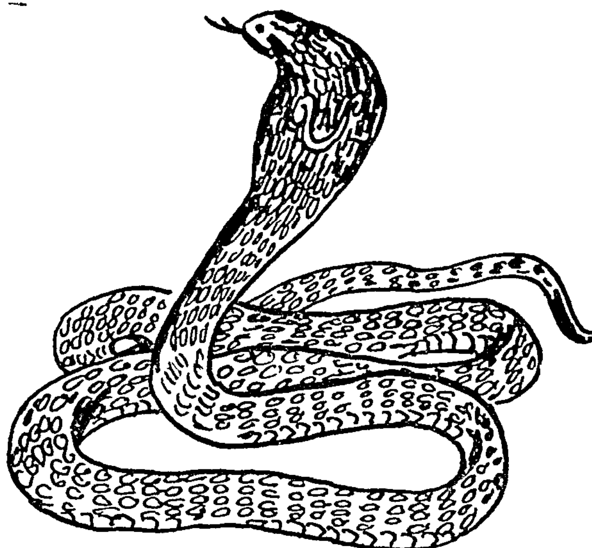
Pesticides can be absorbed through the skin. Do not touch pesticide with bare hands.



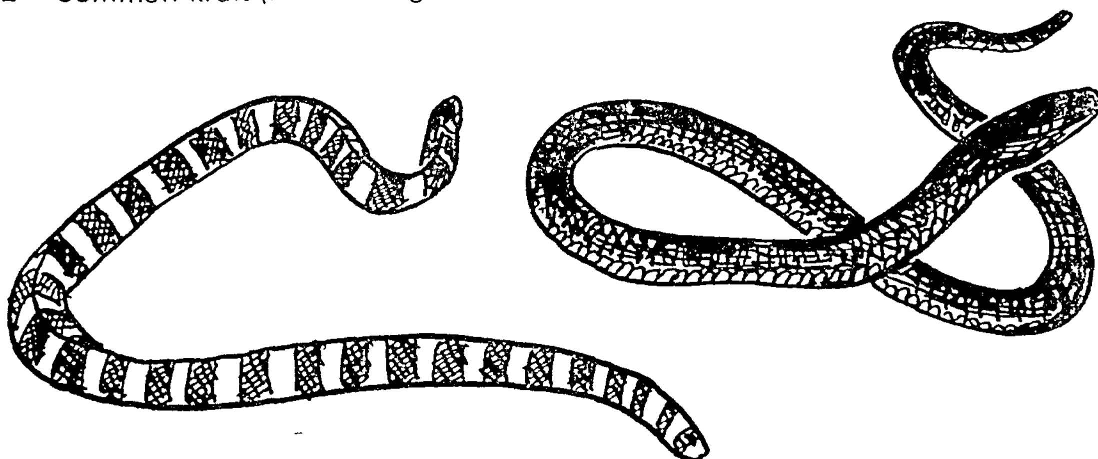
SNAKEBITE

All snakes are not poisonous nor can they outrun man as commonly believed There are only four common poisonous snakes in India

1 Common cobra (Hindi Nag) name in your area



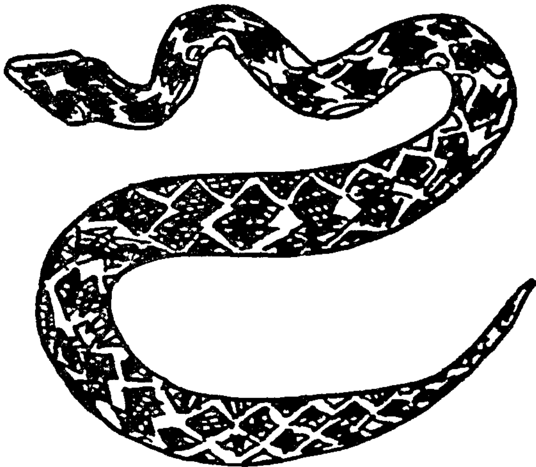
2 Common krait (Hindi bangarus) name in your area



3 Russel's viper (Hindi Daboia) name in your area



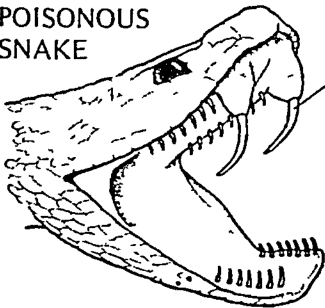
4 Saw-scaled viper (Hindi Phoorsa) name in your area



This snake is less than a foot long It has a clear 'arrowhead' design on the head
Both Russel s viper and Saw - scaled viper have a triangular head and a narrow thin neck

When a person has been bitten by a snake, try to find out if the snake was poisonous, or not Their bite marks are different

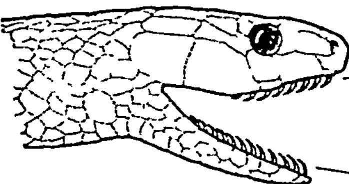
POISONOUS SNAKE



← fang marks

← The bite of a poisonous snake leaves marks of the 2 fangs (and at rare times, other little marks made by the teeth).

NON-POISONOUS SNAKE



← The bite of a snake that is not poisonous leaves only 2 rows of teeth marks, but no fang marks

Most often the bite marks are not so clear as shown in the picture There may be just one fang mark, or just a row of teeth marks, or a ragged tear at the site of the wound When in doubt, always look for the local and general signs of poisoning, and keep the person under observation for at least one day

The poison from cobra and krait affect the nervous system The viper venom affects the blood and prevents it from clotting

People often believe that certain harmless snakes are poisonous DO NOT KILL NON POISONOUS SNAKES, because they do no harm On the contrary, they kill mice and other pests that do lots of damage Some even kill poisonous snakes

SIGNS OF POISONOUS SNAKE BITE:

At the site of the snake bite· local signs

These signs appear within 15 to 30 minutes of the bite

* Pain - may be quite severe and may last for many days
* swelling - depends on the amount of poison that has entered the blood In case of viper bites, pain and swelling at the site of the bite is more severe
* bleeding from the bite this is more common in case of viper bite
* discoloration of skin around the area of the bite
* infection and gangrene may also develop

General signs These develop from 15 minutes to one hour after the bite

Cobra and Krait. affect the nervous system

* drowsiness
* weakness of the muscles especially the muscles around the eyes The person may start seeing double (double vision) and may develop a squint
* paralysis of muscles
* respiratory failure may lead to death

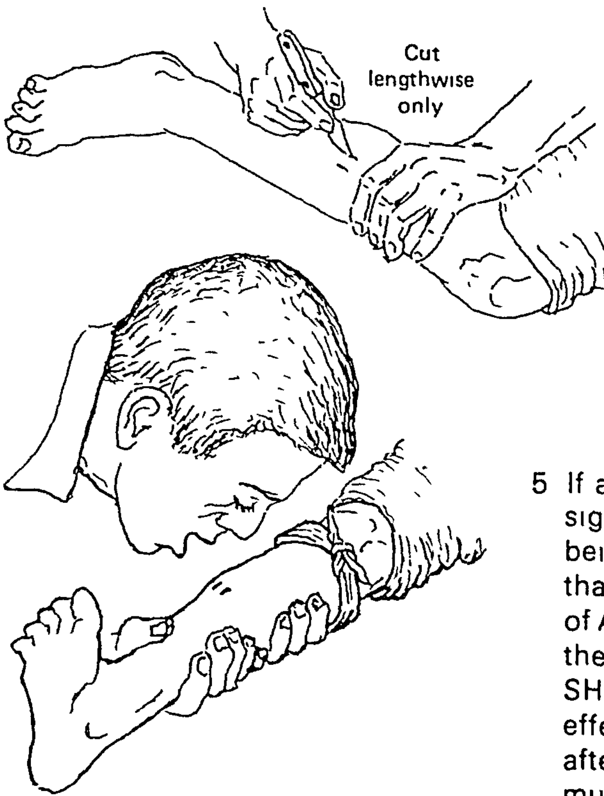
Vipers affects the clotting of blood

* headache, giddiness
* nausea, vomiting
* cough with blood stained phlegm
* bleeding under the skin
* signs of shock (p 89)if there is too much bleeding

Treatment for poisonous snakebite

1 **Stay quiet, do not move the part that has been bitten** The more it is moved, the more rapidly the poison will spread through the body A person who has been bitten on the foot should not walk, not even one step if it can be avoided Carry him on a stretcher

2. Tie a cloth around the limb, just above the bite Do not tie it very tight, and loosen it for a moment every half hour



3 With a very clean knife (sterilized in a flame) make a cut into each fang mark about 1 cm long and ½ cm deep

4 Then suck (and spit out) the poison—for a quarter hour

Note: If more than a half hour has passed since the bite, do not cut or suck the bite. By then it may do more harm than good

5 If a person develops any of the general signs described above, inject ANTIVENIN, being careful to follow the instructions that come with the medicine Inject ½ cc of ADRENALINE under the skin to prevent the person from getting ALLERGIC SHOCK(p 83) The antivenin is most effective if you inject it within 3 hours after the bite (for some snakes like cobra it must be given immediately)

6 It you can get ice, wrap pieces in thick cloth and pack these around the limb that was bitten

7 Give tetanus toxoid injection to prevent tetanus

8 If signs of infection develop, use penicillin

Poisonous snake bite is dangerous **Send for** medical help at once — **but always** do the things explained above **at once.**

Most folk remedies for snakebite do little if any good (see p 3) Never drink alcohol after a snakebite It makes things worse!

Note: You can get polyvalent antivenin which is effective against the above snakebites from

The Haffekine Institute
Acharya Dande Marg
Parel
Bombay 400 012
India

Have snakebite antitoxin ready and study how to use it ahead of time—before someone is bitten!

THE MONITOR LIZARD ('GOH')

There are about 6 varieties of monitor lizards in India They are about 2 to 3 feet long They have very strong claws and their grip is very powerful They have a forked tongue like that of a snake

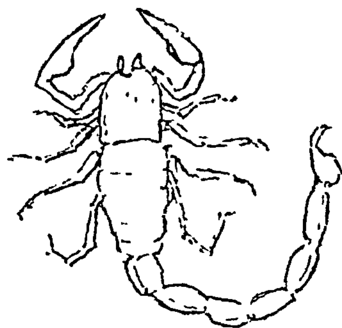
The monitor lizard is not poisonous.

Many people believe that the very breath of a monitor lizard is poisonous, particularly of a variety known as "Bishkopra"

Treatment

There is no need for any antivenin The bitten person needs patient understanding and assurance It is his own fear that makes him sick (see p 4 beliefs that can make people sick)

SCORPION STING



Some scorpions are far more poisonous than others To children under 5 years old, scorpion stings can be dangerous, especially if the sting is on the head or body

In adults, the first time is rarely dangerous But if it **is** for the second time, the person may die, if not treated soon The body becomes allergic to the sting with the first sting So it is important to find out if he had an earlier scorpion sting The person usually develops signs of shock (p83) or heart failure (p 371) and coughs out blood

What to do for scorpion stings

If it is for the first time in an adult, do the following

- Give aspirin and if possible put ice on the sting

inject Novacaine (5 to 10 ml) around the sting. This helps reduce pain, but may give only temporary relief

- Anthistamine tablets can also be given For details see green pages

If the sting is for a second time in an adult, or is in children under five, do the following

- **Get medical help fast.**
- If breathing has stopped, do mouth-to-mouth breathing, (see p 92)
- If the person is in shock, treat the shock (see p.83)
- If the child who was stung is very young, or has been stung on the main part of the body, or if the sting is for the second time - seek medical help fast

For an effective **home cure** for the first scorpion sting in adults, see page 18

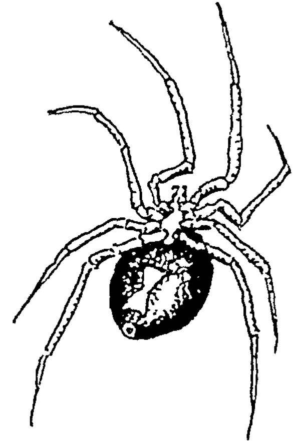
BEE AND WASP STINGS:

In most cases these stings are not dangerous, but they are extremely painful In some persons, they may cause allergic shock(see p 83)The area of the sting becomes red, hot, swollen, and painful

Treatment :

- Apply hot compresses on the area of the sting
- For pain give aspirin and anthistamine tablets (see green pages
- If signs of shock develop, treat as for allergic shock (see p 83)

SPIDER BITES



The majority of spider bites, are painful but not dangerous The bite of a few kinds of spiders can make an adult quite ill They can be dangerous for a small child These bites often causes extreme pain in the stomach muscles (Sometimes this is confused with appendicitis!)

Give aspirin and look for medical help The most useful medicines are not found in village stores (Injection of 10% calcium gluconate, 10 ml , injected intravenously **very slowly** over a 10-minute period, helps to reduce the muscular spasms Also diazepam, p 423 may be helpful If signs of shock develop, treat for allergic shock, p 83 Injections of cortisone may be needed in children)

CHAPTER

11 NUTRITION: WHAT TO EAT TO BE HEALTHY

SICKNESSES CAUSED BY NOT EATING WELL

Good food is needed for a person to grow well, work hard, and stay healthy Many common sicknesses come from not eating enough of the foods the body needs



A person who is weak or sick because he does not eat the right foods, or does not eat enough, is said to be poorly nourished—or *malnourished.* He suffers from *malnutrition.*

Poor nutrition is the most common cause of the following health problems

in children

- failure of a child to grow or gain weight normally (see p 349)
- *slowness in walking, talking, or thinking*
- swollen bellies, thin arms and legs
- sadness, lack of energy
- swelling of feet, face, and hands, often with sores or marks on the skin
- thinning or loss of hair, or loss of its color or shine
- dryness of eyes, blindness

in anyone

- weakness and tiredness
- loss of appetite
- anemia
- sores in the corners of the mouth
- painful or sore tongue
- 'burning' or numbness of the feet

Although the following problems may have other causes, they are often caused or made worse by not eating well

- diarrhea
- ringing or buzzing in the ears
- headache
- bleeding or redness of the gums
- nosebleeds
- *stomach discomfort*
- dryness and cracking of the skin
- fits or convulsions in small children
- heavy pulsing of the heart (palpitations)
- anxiety (nervous worry) and various nerve or mental problems
- cirrhosis (liver disease)
- frequent infections

Eating right helps the body resist sickness.

Not eating well may be the direct cause of the health problems just listed But in addition, poor nutrition weakens the body's ability to resist all kinds of diseases, especially infections

- Poorly nourished children are much more likely to get severe diarrhea, and to die from it, than are children who are well nourished
- Measles are especially dangerous in children who are malnourished
- Tuberculosis is more common, and gets worse more rapidly, in those who are malnourished
- Cirrhosis of the liver, which comes in part from drinking too much alcohol, is more common and worse in persons who are poorly nourished
- Even minor problems like the common cold are often worse and last longer in persons who are poorly nourished

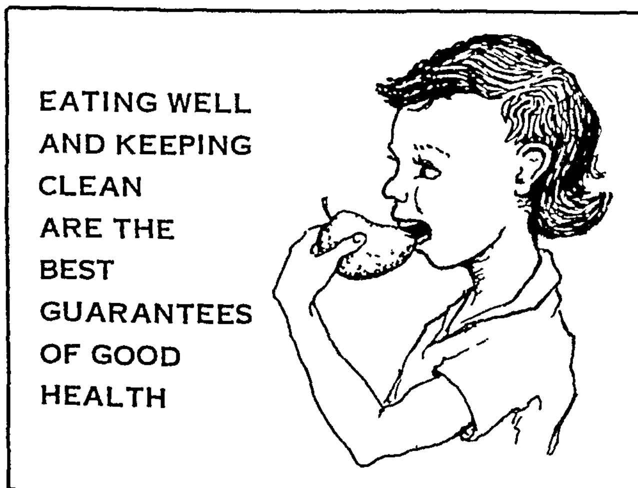
Eating right helps the sick get well.

Not only does good food help prevent disease, it also helps the sick body fight disease and become well again So when a person is sick, nutritious food is especially important

Unfortunately, some mothers stop giving a child nutritious foods when he is sick or has diarrhea—so the child becomes weaker, cannot fight off the illness, and may die **Sick children need nutritious food! If a sick child will not eat, encourage him to do so.**

Often the signs of poor nutrition first appear when a person has some other sickness For example, a child who has had diarrhea for several days may develop swollen hands and feet, a swollen face, purple spots, or peeling sores on his legs These are signs of malnutrition The child needs more good food!

During and after any sickness, it is very important to eat nutritious food.





The patches on this mother's arms are a sign of pellagra, a type of malnutrition She ate mostly one kind of food (maize) and not a mixture of different kinds of food such as beans, dark green leafy vegetables

Because she was not eating well, her breasts did not produce milk for her baby As a result, he suffers from extreme malnutrition The child was 2 years old when this picture was taken He is very small and thin with a swollen belly, his hair is thin, and probably he will be mentally slow (retarded) for the rest of his life

To prevent this, mothers and their children must eat better

FOODS OUR BODIES NEED TO STAY HEALTHY

To be healthy and strong our bodies need a balance of different nutritious foods every day At every meal we should eat something from each of these four food groups

1. Staple foods:

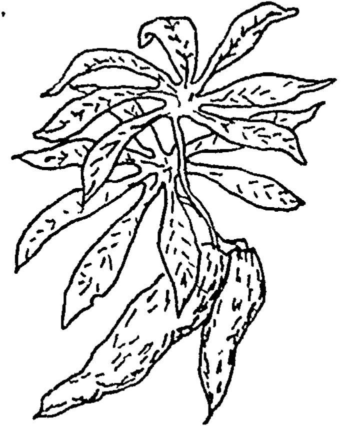
Staple foods are cheap sources of energy and are also called energy foods They are like wood for our fires The harder a person works, the more energy foods he needs Our diet contains a lot of staple foods But a diet of these foods alone, without the foods in the other three groups, make our bodies weak.

Some examples of staple foods

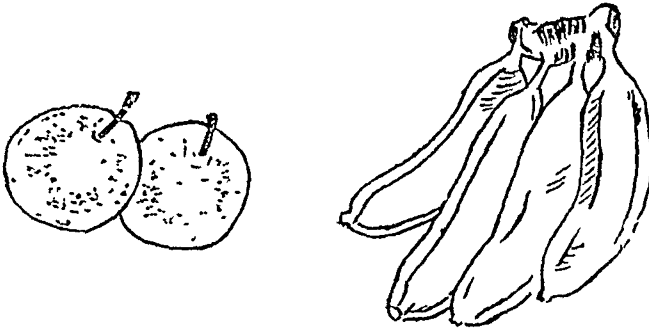
cereals and grains - wheat, rice, jowar,maize, ragi



starchy foods - potatoes, sweet potatoes, tapioca



starchy fruits - banana, bread fruit



2. Foods that give us extra protein:

Protiens are body building foods They are necessary for proper growth, for making healthy muscles, brains, and many other parts of our bodies

Staple foods contain only half of the protein that our bodies need To be healthy our diet should contain at least one food from this group **To grow strong and healthy, everyone should eat enough protein everyday.**

Some examples of proteins

Pulses
Peas, beans
Soyabean

Groundnut

Nuts



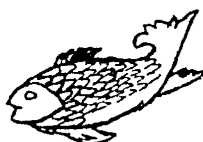
Dark green leafy vegetables

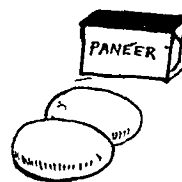


Animal products like
milk, curds, cheese, eggs, meat, fish









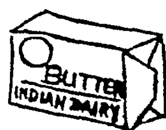
Soyabeans and groundnuts are high in protein A handful of groundnuts eaten everyday along with staple foods gives the body enough protein

3. Foods that give us extra energy:

Fats and sugars are concentrated forms of stored energy Our bodies change fat into sugar when more energy is needed Always try to eat some fat or oil with each meal

Some examples of energy supplements are
Fats - oil, butter, ghee, meat fat

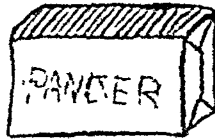








Fat rich foods   nuts oil seeds, paneer





Sugars - white sugar honey, jaggery







4. Foods that contain a lot of vitamins and minerals:

Vitamins are protective foods They help our bodies work properly We become sick if we do not eat foods with all the necessary vitamins

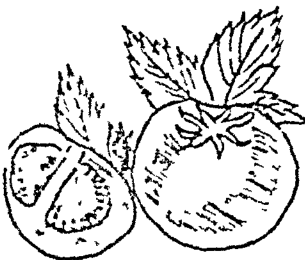
Minerals are needed for making healthy blood, bones and teeth

Some examples of vitamin foods are
dark green leafy vegetables - spinach, drumstick leaves, amaranth



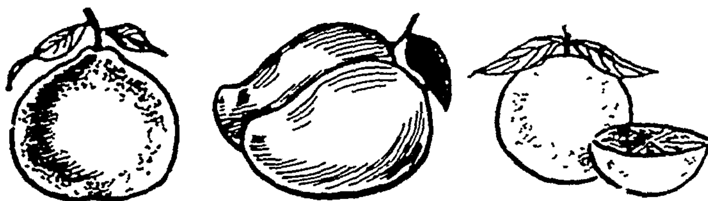
dark yellow vegetables - carrots, yellow pumpkins
other vegetables - tomatoes







fruits - papaya, amla, orange, mango, lemon



animal products - meat, eggs, chicken, fish, milk



Some examples of mineral foods are

millets like ragi, bajra, contain a lot of calcium and iron

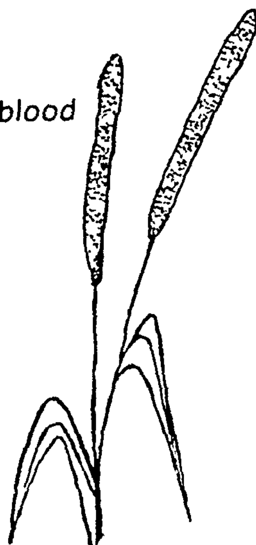
jaggery and tamarind contain iron needed for making healthy blood

dark green leafy vegetables also contain a lot of iron

sea weed for iodine







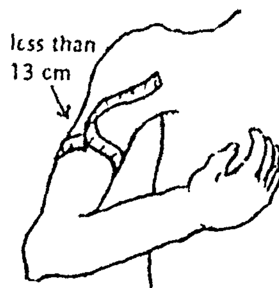
WHAT IT MEANS TO EAT RIGHT

To eat right means **to eat enough.** But it also means **to eat a balance of the different foods the body needs.** To be healthy a person needs to eat enough foods from each of the food groups just described Many people eat large amounts of starchy energy foods like rice, maize, tapioca, or plantain, but not enough of body building and protective foods like beans, peas, pulses, dark green leafy vegetables, and fruit These people can be malnourished **To stay healthy, try and eat at least one food from each group at each meal.**

Malnutrition is often most severe in children, who need lots of nutritious food to grow well and stay healthy. The two most common forms of severe malnutrition are the following KWASHIORKOR and MARASMUS

Neither kwashiorkor nor marasmus develops all at once A child may already be fairly malnourished and still show few signs A good way to check if a child is poorly nourished is to measure the circumference around his upper arm

Checking for Malnutrition : The sign of the Upper Arm



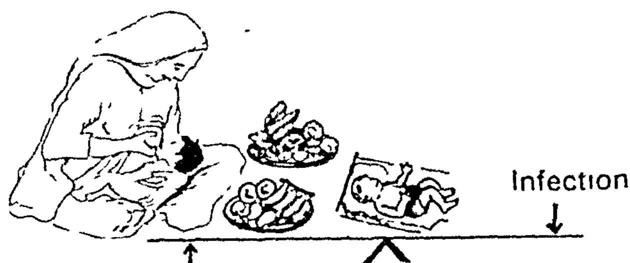
After 1 year of age, any child whose upper arm measures less than 13 cm around is malnourished, no matter how 'fat' his feet, hands and face may look If the arm measures less than 12 cm he is severely malnourished

Very often children who are given only breastmilk with no other foods look fairly well nourished But they are on the border line of malnutrition Even a minor illness like cold or diarrhoea can make them malnourished





1 This child was given only breast milk This child felt sick with a minor infection like cold



2 This child was given other foods along with breast milk This child was able to fight infection and so remained healthy

Another good way to tell if a child is well-nourished or poorly nourished is to weigh him once a month A healthy well-nourished child gains weight regularly

The weighing of Children and the use of the Road to Health Chart is discussed fully in Chapter 21, page 343

Kwashiorkor, often first appears when a child has diarrhoea or another infection like measles It is seen most often in babies who are only breast fed and who are given very little other food to eat

This child with kwashiorkor has not been eating enough staple foods He 'burns up' the protein in the staple food and the breast milk to make energy Therefore he has no protein left to grow and make his body strong This child has **Kwashiorkor.** We call this wet malnutrition because his feet, hands and face are swollen

Because of swelling, and because he may even have some fat, the child with kwashiorkor may look plump rather than thin But his muscles are wasted If you look at his upper arms, you will find them surprisingly thin **This child needs more food.**

WET MALNUTRITION
OR KWASHIORKOR
—from not eating enough protein—



THIS CHILD IS *SKIN, BONES,* AND *WATER*

DRY MALNUTRITION
OR MARASMUS
—from not eating enough—



THIS CHILD IS JUST *SKIN* AND *BONES*

Sometimes, a child does not eat enough of any kind of food In other words he is starved

He has dry malnutrition, or marasmus His body is small, very thin, and wasted He is little more than skin and bones **This child also needs more food.**

Often a child may show the signs of kwashiorkor and marasmus at the same time His legs may be swollen as in kwashiorkor but his arms may be thin as in marasmus This child needs more food

Certain bulky foods like plantains (bananas), and roots (radish, tapioca, turnip, etc) have so much water and fibre in them that the child gets full without getting enough food to meet his energy needs His belly cannot hold more, but he is still starving

It is very important that such children eat at least 3 times a day, **and also snack between meals.** Mixing a little vegetable oil with a child's food also helps Whenever possible he should eat other less bulky, more nutritious foods—both energy foods and proteins



CHILDREN, LIKE CHICKENS,
SHOULD ALWAYS BE PECKING



Prevention and treatment of malnutrition:

Both marasmus and kwashiorkor can be prevented or treated by eating a balance of nutritious foods and by eating enough For babies, breast milk is the best complete food Breast feeding should be continued as long as possible Some mothers breast feed their babies for 2 years or longer After the first 4 to 6 months the baby should begin to get other nutritious foods in addition to breast milk This is discussed more fully on page 142

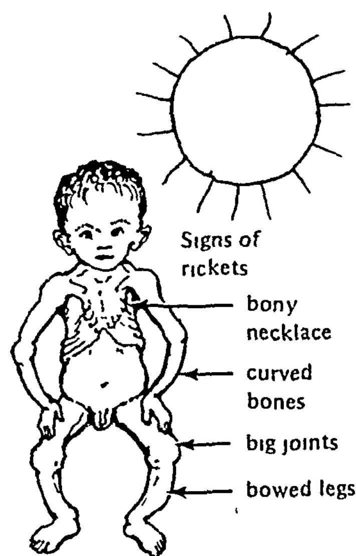
Children with kwashiorkor or marasmus need extra food Eggs, milk, chicken, meat and fish are considered good food but are expensive A mixture of staple food and protein food should be given To be easily digested, the food should be well cooked and mashed A little oil or fat can be added to the food to increase the energy content of the food

Other forms of malnutrition:

Among poor people the most common forms of malnutrition are marasmus or kwashiorkor (due to either hunger or starvation) However, other forms of malnutrition may result when certain vitamins and minerals are missing from the food people eat For example

- Young children who eat no yellow or dark green fruits and vegetables, or other foods rich in vitamin A may develop night blindness, dry eyes, and eventually go blind (see p 271)

- Children who do not drink milk and whose skin is almost never exposed to the sunlight may become bowlegged and develop other bone deformities (rickets) While this problem can be corrected by giving the child milk and vitamin D (found in fish liver oil), the easiest and cheapest form of prevention and treatment is to be sure sunlight reaches the child's skin



SUNLIGHT IS THE BEST PREVENTION AND TREATMENT OF RICKETS

- Persons who do not eat enough foods with iron, such as dark green leafy vegetables, eggs, or meat, may develop anemia (see p 146)

- A number of skin problems (p 248), sorès on the lips and mouth (p 276), or bleeding gums may come from not eating fruits, vegetables, and other foods containing certain vitamins (see p 129)

These and other problems related to nutrition are discussed more fully in this and other chapters

WAYS OF EATING BETTER WHEN YOU DO NOT HAVE MUCH MONEY OR LAND



There are many reasons for hunger and poor nutrition One reason is poverty In many parts of the world a few people own most of the wealth and the land They may grow crops like coffee or tobacco, which have no nutritional value and sell them to make more money or the poor may farm small plots of borrowed land, while the owners take a big share of the harvest **The problem of hunger and poor nutrition will never be completely solved until people learn to share with each other fairly.**

But there are many things poor persons can do to eat better at low cost—and by eating well gain strength to stand up for their rights On pages w13 and w14 of "Words to the Village Health Worker" you will find several suggestions for achieving better nutrition These include improved use of land through **rotating crops, contour ditches,** and **irrigation;** also **breeding fish, beekeeping,** improved **grain storage,** and planting **family gardens.** If the whole village or a group of families works together on some of these things, a lot can be done to improve nutrition

When considering the question of food and land, it is important to remember that **a given amount of land can feed only a certain number of persons.** If the amount of land and other resources your family has is limited, it is wise to plan ahead and only have the number of children that you can feed well More children may mean more hands to do work, but it does not necessarily mean more land to work

Hungry children do not work well, and many of them die.

Small family size is becoming increasingly important for good nutrition Think about this and plan ahead. A discussion of the balance between people and land is found on page w16 For a discussion of family planning, see Chapter 20

When money is limited, it is important to use it wisely This means cooperation and looking ahead Too often the father of a poor family will spend the little bit of money he has on alcohol and tobacco rather than on buying nutritious food, a hen to lay eggs, or something to improve the family's health Men who drink together would do well to get together sometime when they are sober, to discuss these problems and look for a healthy solution

Also, mothers sometimes buy sweets for their children when they could spend the same money buying milk, eggs, or other nutritious foods This way their children could become more healthy for the same amount of money

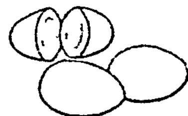
NO



IF YOU HAVE A LITTLE MONEY
AND WANT TO HELP YOUR CHILD GROW STRONG:

DO NOT BUY HIM A SOFT DRINK OR SWEETS—
BUY HIM A COUPLE OF EGGS.

YES



BETTER FOODS AT LOW COST:

Many of the world's people eat a lot of staple and starchy foods, and not enough foods rich in protein, vitamins, and minerals This is because most of these 'better' foods cost so much Animal protein like milk and meat is very nutritious, but also expensive Animals also require more land for the amount of protein they provide

Most people cannot afford much food from animals Some religions do not allow people to eat meat In fact, a poor family can usually get more protein and good nutrition if they **grow or buy plant foods high in protein, like beans,peas, lentils, groundnuts, and dark green leafy vegetables, rather than expensive animal foods like meat and fish.**

People can be strong and healthy when most of their protein comes from plants.

Try to **eat a variety of plant foods** rather than mostly one or two Different plants supply the body with different proteins, vitamins, and minerals For example, beans and maize together meet the body's needs much better than either beans or maize alone And if other vegetables and fruits are added, this is even better **If possible, eat a different vegetable each day.**

Here are some suggestions for getting more proteins, vitamins, and minerals at low cost

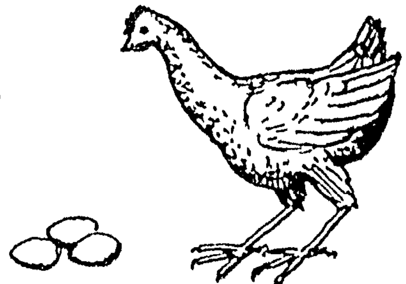
1 **Breast milk.** This is the cheapest, healthiest, and most complete food for a baby The mother can eat plenty of plant protein and turn it into the perfect baby food—breast milk Breast feeding is not only best for the baby, it saves money!

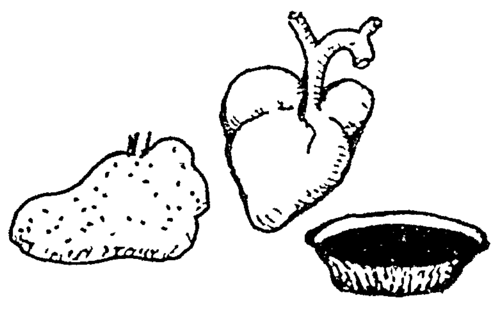


2 **Eggs and chicken.** In many places eggs are one of the cheapest and best forms of animal protein They can be mixed with foods given to babies who cannot get breast milk Or they can be given along with breast milk as the baby grows older

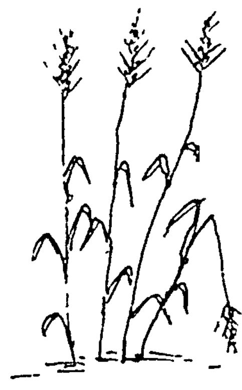
Eggshells, ground up well and mixed with food, can provide needed calcium for pregnant women who develop sore, loose teeth or muscle cramps

Chicken is a good, often fairly cheap form of animal protein—especially if the family raises its own chickens

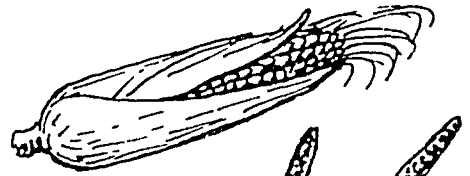




3 **Liver, heart, kidney, and blood.** These are especially high in protein, vitamins, and iron (for anemia) and are often cheaper than other meat Also **fish** is often cheaper than other meat, but is just as nutritious In certain parts of India, dried fish is very cheap This is very good, especially for mothers who are breast feeding



4. Rice wheat and other grains. They are more nutritious if they are not polished Moderately polished rice, and whole wheat contain more vitamins than the white, over-polished product Parboiling causes an important vitamin present in the husk to move deep into the grain Parboiled, hand-pound rice is better than the raw, polished rice

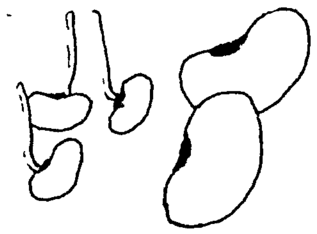


5. Dried maize (corn) when soaked in slaked lime before cooking, allows more of the vitamins (niacin) and protein to be used by the body



6. Ragi and bajra. These are very rich in minerals, especially calcium and iron They are cheaper than rice or wheat, and are also more nutritious These can be used instead of rice or wheat for a good diet

7. A mixed cereal diet is better than just one cereal Different cereals supply the body with different proteins A mixture of different cereals will supply the body with all the protein it needs



8. Beans and other legumes (peas, lentils, etc.) are a good cheap source of protein, especially soyabeans and **winged beans.** If allowed to sprout before cooking and eating, they are higher in vitamins Baby food can be made from beans by cooking them well,

peeling off their skins, and mashing them

Beans, peas, and other legumes are not only a low-cost form of protein Growing these crops makes the soil richer so that other crops will grow better afterwards For this reason, crop rotation is a good idea (see p w13)



9. Dark green leafy vegetables have a modest amount of protein, some iron and a lot of vitamin A The leaves of sweet potatoes, beans and peas, and pumpkins are especially nutritious They can be dried, powdered, and mixed with babies' gruel (Kanji) to add to the protein and vitamin content

Light green leafy vegetables like lettuce and cabbage contain very little protein or vitamins In terms of nutritional value, they are not worth growing

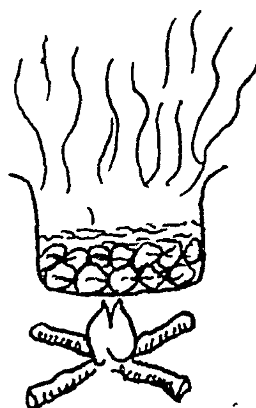


10 The green leaves of root vegetables

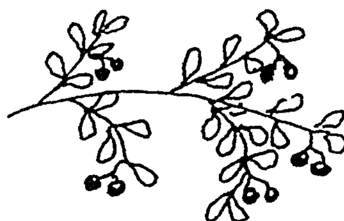
like radish tapioca, have more proteins than the radish or tapioca root which is more commonly eaten Tapioca leaves contain seven times as much proteins and more vitamins than the root If eaten together with the root, they have more value at no additional cost The young leaves are best

11 Cook vegetables, rice and others foods in little water. Cut the vegetables just before cooking Do not over cook This way fewer vitamins and minerals are lost Be sure to drink the leftover water, or make it into a soup Add a little **tamarind** to the cooking vegetables This way fewer vitamins are lost

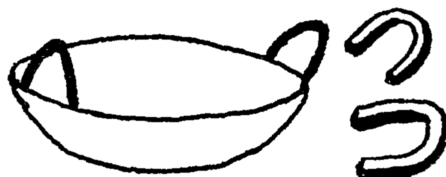
Fresh vegetables have more nutrients than old stale ones



12 Many **wild fruits and berries** are rich in vitamin C as well as natural sugars They can provide a good vitamin and food supplement (Be sure to eat only those which are not poisonous)



13 **Cooking in iron pots** or putting a piece of old iron or rusty horseshoes in the pan when cooking beans and other foods adds iron to fooc and helps prevent anemia



14 **Jaggery** contains a lot of iron as it is made in iron pots Use this instead of the commonly used white sugar



WHERE TO GET VITAMINS: IN PILLS, INJECTIONS, SYRUPS—OR IN FOODS?

Anyone who eats well gets all the vitamins he needs It is always better to eat well than to buy vitamin pills, injections, syrups, or tonics



if you want vitamins, buy fruits, eggs, or other nutritious foods instead of pills or injections.



Sometimes nutritious foods are scarce If a person is already poorly nourished, he should eat as well as he can and perhaps take vitamins besides

In almost all cases vitamins taken by mouth work as well as injections, cost less, and are not as dangerous **Do not inject vitamins! It is better to swallow them—preferably in the form of nutritious foods.**

If you buy vitamin preparations, be sure they have all the vitamins and minerals commonly lacking in starchy diet

These are

Niacin (niacinamide)

Vitamin B_1 (thiamine)

Vitamin B_2 (riboflavin)

Iron (ferrous sulfate, etc)—especially for pregnant women and persons with anemia

In addition, certain people need extra

Folic Acid (folicin), for pregnant women

Vitamin A, Vitamin C (ascorbic acid), Vitamin D — for small children

Vitamin B_6 (pyridoxine), for small children and persons taking medicine for tuberculosis

Calcium, for children and nursing mothers who do not get enough calcium in foods such as milk and cheese, or foods prepared with lime

THINGS TO AVOID IN OUR DIET

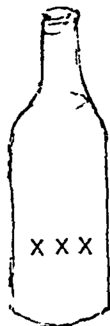
A lot of people believe that there are many kinds of foods that will hurt them or that they should not eat when they are sick They may think of some kinds of foods as 'hot' and others as 'cold', and not permit hot foods for 'hot' sicknesses or cold foods for 'cold' sicknesses

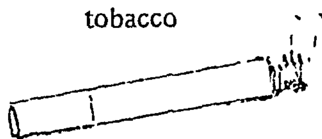
They may also avoid some foods which they think have PITHAM (see p30) Or, they may believe that many different foods are bad for a mother with a newborn child These beliefs may do more harm than good Often the foods people think they should avoid when they are sick are the very foods they need to get well

A sick person has even greater need for body-building foods than a healthy person We should worry less about foods that might harm a sick person and think more about the foods that help make him healthy—for example fruit, vegetables, milk, meat, eggs, and fish As a general rule

The same foods that are good for us when we are healthy are good for us when we are sick.

Also, the things that harm us when we are healthy do us even more harm when we are sick Avoid these things













- Alcohol causes or makes worse diseases of the liver, stomach, and nerves It also causes social problems

- Smoking can cause chronic (long-term) coughing or lung cancer and other problems (see p 178) Smoking is especially bad for people with lung diseases like tuberculosis, asthma, and bronchitis, and for pregnant woman

- Too much greasy food, hot spices, or coffee can cause stomach ulcers and other problems of the digestive tract

- Too much sugar and sweets spoils the appetite, rots the teeth, can cause heart problems, and may be part of the cause of intestinal cancer However, some sugar may help give needed energy to a very sick person or poorly nourished child

A few diseases require not eating certain other foods For example, people with high blood pressure, certain heart problems, or swollen feet should use little or no salt Too much salt is not good for anyone. Stomach ulcers and diabetes also require special diets (see p 149)

THE BEST DIET FOR SMALL CHILDREN

THE FIRST 2 TO 4 MONTHS OF LIFE.

For the first 2 months give the baby mother's milk and nothing else.



Breast milk is the best and purest food for babies It is better than any baby food or formula you can buy If you give the baby only breast milk during the first 2 to 4 months, this helps protect him against diarrhea and many infections

If the mother's breasts do not make enough milk:

- The mother should drink a lot of water or other liquids The more liquid she drinks the more milk she will produce

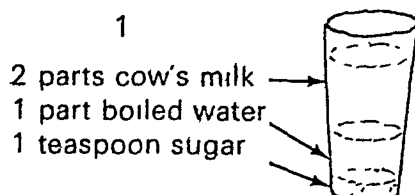
• The mother should eat better Foods with proteins and vitamins— beans dark green leafy vegetables, papaya, garlic, meat, milk, cheese, eggs, and dried fish— will help her make more milk for her baby

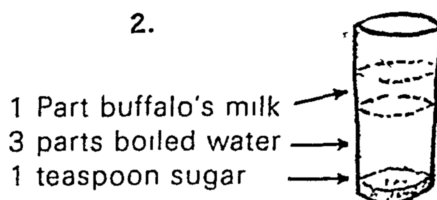
If the mother's breasts do not give any milk·

◆ Have her drink a lot of liquids and eat better Let the baby suck her breasts often Sometimes her breasts will begin to make milk

◆ If this does not work, give the baby some other type of milk—like cow's milk, goat's milk, canned milk A little sugar may be added to whatever kind of milk the baby is given

Note: whatever type of milk is used, always add some boiled water Here are two examples of correct formulas





If non-fat (skimmed) milk is used, add a tablespoon of cooking or vegetable oil to the formula

◆ Always boil the milk and water **It is safer to feed the baby with a cup and spoon than to use a baby bottle.** Baby bottles and nipples are difficult to keep clean and cause many infections, including diarrhea (see p 185) If a bottle is used, both it and the nipple should be boiled each time before the baby is fed

BOTTLE FEEDING IS DANGEROUS. IT CAN KILL YOUR BABY.

If there is not enough money to buy milk for the baby make a porridge from rice, cornmeal or other cereals If possible add to this some skinned beans, pulses or other protein These should be well mashed and given as a liquid

WARNING. **Cornmeal or rice water alone is not nutritious enough for a baby. The baby will not grow properly or walk or speak on time. He will get sick easily and may die. THE BABY MUST HAVE A MIXTURE DIFFERENT FOODS.**

FROM 4 MONTHS TO 1 YEAR OF AGE.

1 Continue to give the baby breast milk, if possible until he reaches 2 years of age

2 When the baby is 4 months old, start giving him other foods as well These foods need to be well cooked and mashed Often when the baby first tastes such food, he spits if out It tastes strange to him because he has not eaten it before But the

mother should keep feeding him this food He will soon get used to it and enjoy it Inexpensive, nutritious feedings can be made by combining at least one food from each of the following groups

Staple foods	Protein foods	Concentrated energy foods	Foods with vitamins and minerals
wheat	pulses	fats	dark green-leafy vegetables
rice	peas	oils	fruits
ragi	beans	cheese	animal products like milk, eggs, meat, fish
jowar	groundnuts	butter	
bajra	soybeans	ghee	
potato	dark green leafy vegetables	jaggery	
tapioca	animal products like milk, eggs, fish meat	honey	
		white sugar	

These are some examples of balanced feeding using foods from each group

4 to 6 months	water in which dal and green leafy vegetables have been boiled and cooked with a little jaggery and milk well cooked dal mashed and mixed with a mashed chapati or mashed rice well cooked green leafy vegetables mashed bananas, papaya, or other ripe fruits half boiled egg yolk mixed w th a little milk,or mashed chappati Porridge made of dalia, wheat, ragi, jowar and other staple foods
6 months to 1 year	rice mashed, chappati mixed with dal, green leafy vegetables, milk, egg, potato, etc ripe fruits

CAUTION· The time when children are most likely to become malnourished is between 6 months and 1 year of age It is dangerous because they often do not show any signs of malnutrition Even a mild infection like a cold can make them severely malnourished They must be given more food

For children of this age to be healthy we should



KEEP FEEDING THEM BREAST MILK,

FEED THEM OTHER NUTRITIOUS FOODS ALSO,

BOIL THE WATER THEY DRINK, AND

KEEP THE CHILDREN AND THEIR SURROUNDINGS CLEAN

3 A small child has a small stomach He cannot eat a lot of food at one time So feed him often Give him as much food as possible. By six months, a baby should eat five to six times a day

ONE YEAR AND OLDER:

After a child is 1 year old, he can eat the same foods as adults, but should also drink milk whenever possible

Try to give the child foods with plenty of proteins, vitamins, iron, and minerals (as shown on p 128 and 129) every day, so that he will grow up strong and healthy

Children and candy: Do not accustom small children to eating candy and sweets or drinking soft drinks When they have too many sweets, they no longer want the foods that are better for them Also, sweets are bad for their teeth

However, when food supply is limited, adding a little sugar and vegetable oil to milk or other food may allow children to make fuller use of the protein in the food they get

THE BEST DIET FOR CHILDREN

THE FIRST TWO TO FOUR MONTHS

breast milk and nothing else

YES



NO

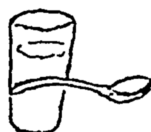


FROM FOUR MONTHS TO TWO YEARS

breast milk

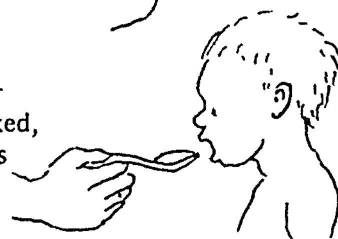


and also



cow, goat or buffalo milk

and other well-cooked, nutritious foods



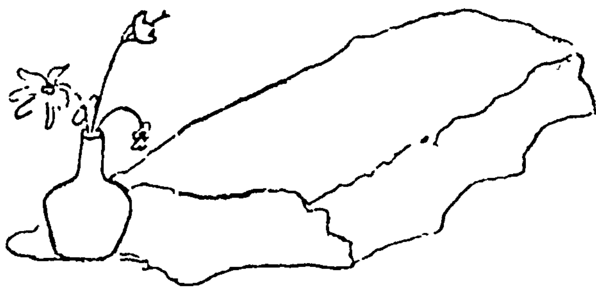
HARMFUL IDEAS ABOUT DIET

1 **The diet of mothers after giving birth:**

In many areas there is a dangerous popular belief that a woman who has just had a baby should not eat certain foods This folk diet—which forbids the new mother some of the most nutritious foods and permits her to eat little more than rice or chappati with a watery curry—makes the mother weak and anemic It may even cause her death, by lowering her resistance to hemorrhage and infection

After giving birth a mother needs to eat the most nutritious foods she can get.

In order to fight infections or bleeding and to produce enough milk for her child, **a new mother should eat plenty of body-building foods like beans, eggs, chicken, milk products, meat, fish, fruits, and vegetables.** None of these foods will harm her, all bring better health

Here is a healthy mother who ate many kinds of nutritious foods after giving birth	Here lies a mother who was afraid to eat nutritious foods after giving birth
	

2 **It is also not true that oranges, guavas, or other fruits are bad for a person who has a cold, the flu, or a cough.** In fact, fruits like oranges and tomatoes have a lot of vitamin C, which may help fight colds and other infections

3 **It is not true that certain foods like spices, or guavas cannot be eaten while taking medicine.** However, eating fat or spices when one has a disease of the stomach or other parts of the digestive system may make things worse—whether or not one is taking medicines

HEALTH PROBLEMS RELATED TO WHAT PEOPLE EAT

Special diets are the best prevention and treatment for certain diseases Here are some of these diseases

ANEMIA

A person with anemia has thin blood This happens when blood is lost or destroyed faster than his body can replace it

A diet lacking meat, dark green leafy vegetables, and other foods rich in iron can cause anemia or make it worse If a child is not given other foods along with breast milk after 6 months of age, he can get anemia

Other causes of anemia are

- hookworm infection
- dysentry
- malaria and
- blood loss from
  - lungs as in tuberculosis
  - stomach as in peptic ulcer
  - anus as in piles
  - large wounds

Women can also get anemia due to

- increased loss during monthly periods
- repeated abortions
- many children without spacing

The signs of anemia are:

- pale or transparent skin
- pale insides of eyelids
- pale gums
- shiny smooth tongue
- white fingernails



* Weakness and fatigue
* If anemia is very severe, face and feet may be swollen, the heart beats faster and the person may have shortness of breath The finger nails are flat and sometimes there is spooning of nails To test this, put a drop of water on a finger nail, if it remains there without rolling off, there is spooning of nails.

Treatment and prevention of anemia

- **Eat foods rich in iron.** Bajra and ragi have good amounts of iron Green leafy vegetables, especially spinach, amaranth, beans and peas have a lot of iron Jaggery has iron as it is made in iron pots Meat, fish, chicken, eggs are high in iron Liver is specially high

- If foods rich in iron are hard to get, or if the anemia is severe, the person should take iron (ferrous sulfate pills, p 424) This is especially important for pregnant women who are anemic For nearly all cases of anemia, ferrous sulfate tablets are much better than liver extract or vitamin B_{12} As a general rule, **iron should be given by mouth, not injected,** because iron injections are dangerous

- If the anemia is caused by dysentery (diarrhea with blood), hookworm, malaria, or another disease, this should also be treated

- If the anemia is severe or does not get better, seek medical help This is especially important for a pregnant woman

Many women are anemic This is often because they do not eat enough foods rich in iron to replace the blood they lose during menstrual periods or with child-birth Anemic women run a greater risk of miscarriage and of dangerous bleeding in childbirth For this reason it is very important that women eat beans, dark green vegetables, and as much meat, chicken, and eggs as possible, especially during pregnancy Family planning—allowing 2 to 3 years between pregnancies—lets the woman regain strength and make new blood (see Chapter 20)

HIGH BLOOD PRESSURE

High blood pressure can cause many problems, such as heart disease, kidney disease, and stroke Fat people are especially likely to have high blood pressure

Signs of high blood pressure:

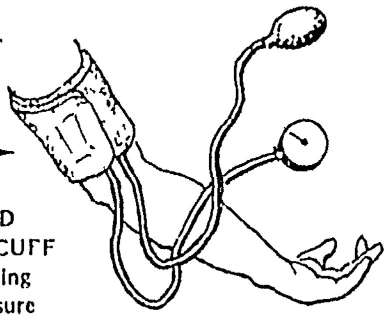
- frequent headaches, mostly at the back of the head, and especially when getting up in the morning

- pounding of the heart and shortness of breath with mild exercise

- weakness and dizziness

occasional pain in the left shoulder and chest

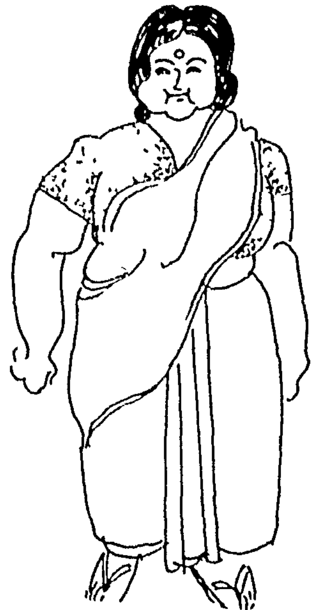
All these problems may also be caused by other diseases Therefore, if a person suspects he has high blood pressure, he should see a health worker and have his blood pressure measured →



A BLOOD PRESSURE CUFF for measuring blood pressure

What to do to prevent or care for high blood pressure:

- Overweight people should lose weight (see below)
- Fatty foods, and foods with a lot of sugar or starch should be avoided. Always use vegetable oil instead of butter or ghee. Sunflower oil is the best
- Food should be prepared and eaten with little or no salt
- When the blood pressure is very high, the health worker may give medicines to lower it Many people can lower their blood pressure by losing weight if they are fat (see below), and by learning to relax



OVER WEIGHT

To be very fat is not healthy Too much fat helps cause high blood pressure, heart disease, stroke, gall-stones, diabetes, arthritis in legs and feet, and other problems

Fat people should lose weight by

- not eating greasy, fatty, or oily foods
- not eating sugar or sweet foods
- getting more exercise
- **not eating too much** of anything, especially starchy foods, like corn, bread, potatoes, rice, tapioca etc Fat people should not eat more than one chappati or a handful of rice with each meal However, they can eat more fruit, vegetables and lean meat.

To lose weight, eat only half of what you now eat.

DIABETES

Persons with diabetes have too much sugar in their blood

The signs of diabetes are.

- continual thirst
- urinating often and a lot
- unexplained tiredness
- itching and long-term skin infections Like boils
- Increased appetite

And in severe cases:

- weight loss
- numbness or pain in the hands or feet
- sores on the feet that do not heal
- loss of consciousness

All of these signs may be caused by other diseases, too In order to find out whether a person has diabetes, his urine should be tested to see if there is sugar in it

One way of testing the urine is to boil 8 drops of urine with 5 ml of a special liquid called **Benedicts Solution.** Boil for two minutes If the person is diabetic, the colour of the solution will change from blue to green, yellow or red If the colour of the solution remains blue, then the person is not diabetic

Another way of testing the urine is to use special paper strips (for example uristix) If those change colour when dipped in the urine, then the person is diabetic These special paper strips are very expensive

You will also notice that ants collect on the urine of a diabetic person

When a person gets diabetes after he is 40 years old, it can often be best controlled without medicines, by eating correctly **The diabetic person's diet is very important and must be followed carefully for life.**

The diabetic diet Fat people with diabetes should lose weight until their weight is normal **Diabetics must not eat any sugar or sweets.** They should eat foods high in protein (dark green leafy vegetables, beans, nuts, eggs, fish, lean meat, etc) and low in starch They should avoid foods like rice, maize, wheat, potato, tapioca, and fruits like banana, apple, breadfruit, jackfruit, etc

Some diabetic persons—especially the young—need special medicine (insulin) In case of severe diabetes, a health worker should be consulted

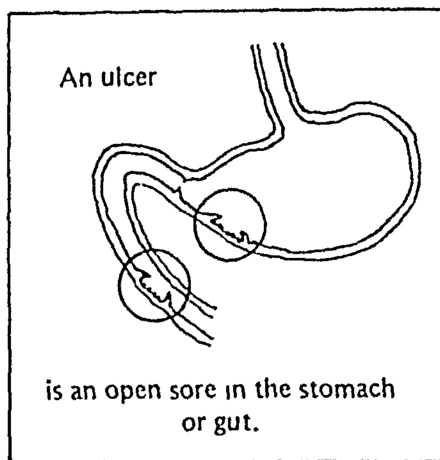
STOMACH ULCERS, HEARTBURN, AND ACID INDIGESTION

Acid indigestion and 'heartburn' often come from eating too much heavy or greasy food or from drinking too much alcohol These make the stomach produce extra acid, which causes discomfort or a 'burning' feeling in the stomach or mid-chest Some people mistake the chest pain called 'heartburn' for a heart problem rather than indigestion

An ulcer is a chronic sore in the stomach or small intestine, caused by too much acid. It can be recognised by a chronic, dull (sometimes sharp) pain in the pit of the stomach Often the

pain lessens when the person eats food or drinks milk The pain gets worse 2 or 3 hours after eating, if the person misses a meal, or after he drinks alcohol or eats fatty or spicy foods Pain is often worse at night

If the ulcer is severe, it can cause vomiting, sometimes with blood Stools with blood from an ulcer are usually black, like tar



is an open sore in the stomach or gut.

Prevention and treatment:

- Eat foods that heal ulcers instead of those which irritate them·

These cure ulcers:	These do no harm:	These make ulcers worse:
boiled milk	all boiled vegetables	alcoholic drinks
cheese	boiled or poached eggs	coffee
cream	boiled potatoes	cigarettes
oats		spices and pepper
bananas		greasy food

- Milk is one of the best medicines for ulcers or acid indigestion If the ulcer is severe, drink a glass of milk every hour for the first few days and eat only things listed in the first column above (those which cure ulcers) In a few days, when the pain lessens, begin eating things in the center column (those which do no harm) For a few months, it is a good idea to drink some milk with each meal and also in mid-morning, in the afternoon, and again before going to bed (6 times a day).

- Antacids, such as milk of magnesia or magnesium and aluminum hydroxide (p 416), also help fight stomach acid and cure ulcers If pain is severe, an antispasmodic may help (see p 415)

- Even after the ulcer is cured the person should never eat or drink any of the things in the right-hand column above (those which make ulcers worse), as these may cause the ulcer to return If possible, he should keep taking antacids or milk at bedtime

When to consult a health worker:

- if the pain does not go away, or becomes worse, even after eating the foods in the first column above (those which cure ulcers)
- if the person starts vomiting blood
- if the stools becme black like tar
- if there is a sudden severe pain followed by signs of peritonitis (see p 108)

THESE TWO MEN HAD STOMACH ULCERS

This man ate these foods



and got well

This man ate, smoked, and drank these



and got worse

It is important to cure an ulcer early. Otherwise it may lead to dangerous bleeding or peritonitis. Ulcers usually get better if the person is careful with what he eats and drinks. Anger, tension, and nervousness make ulcers worse. Learning to relax and keep calm will help. Continued care is necessary to prevent the ulcer from returning.

Better still, **avoid ever getting an ulcer by eating wisely, not drinking much, and not smoking.**

CONSTIPATION

A person who has hard stools and has not had a bowel movement for 2 or more days is said to be constipated. Constipation is often caused by a poor diet (especially not eating enough fruits, green vegetables, or foods with natural fiber) or by lack of exercise.

Drinking more water and eating more fruits, vegetables, and foods with natural fiber like **tapioca** or wheat bran is better than using laxatives. Older people may need to walk or exercise more in order to have regular bowel movements.

A person who has not had a bowel movement for 3 or more days, if he does not have a sharp pain in his stomach, can take a mild salt laxative like milk of magnesia. **But do not take laxatives often.**

Never use strong laxatives or purgatives—especially if there is stomach pain.

GOITER (A SWELLING OR MASS ON THE THROAT)

A goiter is a swelling or a large mass on the throat that results from abnormal growth of a gland called thyroid Most goiters are casued by lack of iodine in the diet This is very common in hilly regions

Sometimes, a lack of iodine in a pregnant woman's diet can cause babies to die or be born mentally slow and /or deaf (cretinism, p 365) This can happen even though the mother does not have a goiter

How to prevent or cure a goiter and prevent cretinism.

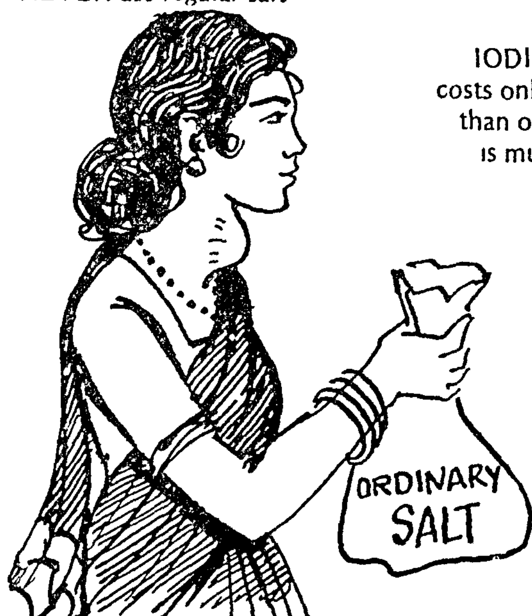
Everyone living in hilly areas or in areas where goitre is common **should use iodized salt.** Use of iodized salt prevents the common kind of goiter and will help many goiters go away (Old, hard goiters can only be removed by surgery, but this is not usually necessary)

If it is not possible to get iodized salt, use tincture of iodine Put 1 drop in a glass of water each day and drink BE CAREFUL Too much tincture of iodine is poisonous Drink only 1 drop a day Keep the bottle where children cannot reach it Iodized salt is much safer

Most home cures for goiter do not do any good However, eating crab and other seafood can do some good because they contain iodine Mixing a little sea-weed with food also adds iodine. But the easiest way is to use **iodized salt.**

HOW TO KEEP FROM GETTING A GOITER

NEVER use regular salt



IODIZED SALT
costs only a little more
than other salt and
is much better

ALWAYS use iodized salt



Note: If a person with a goiter trembles a lot, is very nervous, and has eyes that bulge out, this may be a different kind of goiter (toxic goiter) Seek medical advice

LATHYRISM

This disease is caused by eating large amounts of the pulse called kesari dal Kesari dal needs very little water to grow and so grows well in dry areas It is cheaper than other pulses

Kesari dal is grown in parts of Madhya Pradesh, Uttar Pradesh, and Bihar Often, it is given as wages in these areas So the disease is found mostly in persons working as labourers

Lathyrism affects the nervous system First, the affected person is unable to stretch his legs The stiffness slowly increases until the person is unable to walk Finally his lower limbs become completely paralyzed Once the signs start appearing, there is no treatment for this disease

How to prevent lathyrism

These methods help in reducing the amount of poisonous substance present in kesari dal

The surest way of preventing lathyrism is to STOP EATING KESARI DAL. REFUSE TO ACCEPT KESARI DAL FOR WAGES.

- **steeping method.** Boil a large amount of water Soak the dal in this hot water for 2 hours Drain the water and wash the dal with cold water Dry it in the sun

- **Parboiling.** Soak kesari dal in water for 12 hours Then steam the dal for half an hour After this soak it in cold water for one hour



CHAPTER

12 PREVENTION: HOW TO AVOID MANY SICKNESSES

An ounce of prevention is worth a pound of cure! If we all took more care to **eat well,** to **keep ourselves, our homes, and our villages clean,** and to **be sure that our children are vaccinated,** we could stop most sicknesses before they start

CLEANLINESS AND ENOUGH FOOD PREVENT MOST OF THE COMMON AND SERIOUS ILLNESSES

Many people in our country do not have enough to eat even for one meal or enough water even to drink And why is there no food or water for these people?

- Is it because the land and the only well in the village belongs to the high caste people?
- Is it because the people do not have the money to buy good food or firewood to boil the water?
- Is it because each person in the village does not have enough land or work to support himself?
- Is it because the people do not look or plan ahead? Because they do not realize that by working together and sharing, they can change the conditions in which they live?

As a health worker, it is your job to help people understand and do something to improve their conditions Your advice about prevention will have meaning only if you help people find answers to these questions

Good nutrition not only prevents sicknesses, it also helps the sick person fight against his disease, see Chapter 11.

Cleanliness is of great importance in the prevention of many kinds of infections —infections of the gut, the skin, the eyes, the lungs, and the whole body Personal cleanliness (or *hygiene*) and public cleanliness (or *sanitation*) are both important

HOW ARE DISEASES SPREAD

Many common infections of the gut are spread from one person to another because of poor hygiene and poor sanitation Germs and worms (or their eggs) are passed by the thousands in the ***stools*** or ***feces*** (shit) of infected persons These are carried from the feces of one person to the mouth of another by dirty fingers or ***contaminated*** food or water Diseases that are spread or ***transmitted*** from ***feces-to-mouth*** in this way, include

- several types of intestinal worms
- diarrhoea, dysentry (caused by amebas and parasites)
- cholera, typhoid, and hepatitis
- certain types of diseases like polio

Direct Contact: These diseases are spread by touching the infected person, using his clothes, sleeping on his bed, his blankets They include

- skin diseases like scabies, ringworm
- lice, ticks
- venereal diseases like syphilis, gonorrhea are spread by sexual contact

Coughing ,sneezing: When a person coughs or sneezes the germs present in his respiratory passage are thrown out with a great force Other persons who breathe these germs can then get the disease If an infected person spits out phlegm, the phlegm gets mixed up with the dust around The phlegm has the germs of the disease in it The dust is carried around by the air and other persons who breathe this air get the disease These types of diseases include

- tuberculosis
- measles, chickenpox
- common cold
- pneumonia
- diptheria

By insects and other animals : Some germs which cause diseases are present in an insect or animal These germs are spread by insect bites, or by eating raw meat from the infected animal, or by the animal bite

Diseases spread this way include

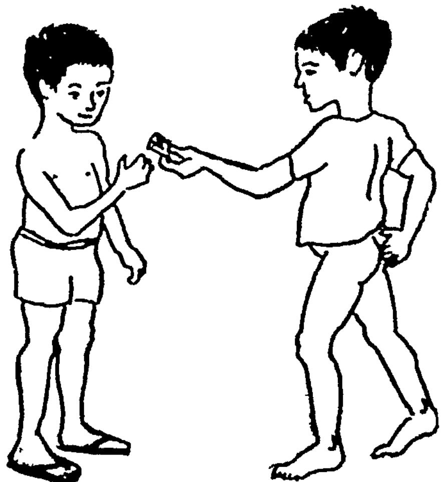
— malaria
— filariasis (elephantiasis)
— tape worm infection
— rabies

Feces-to-mouth infection

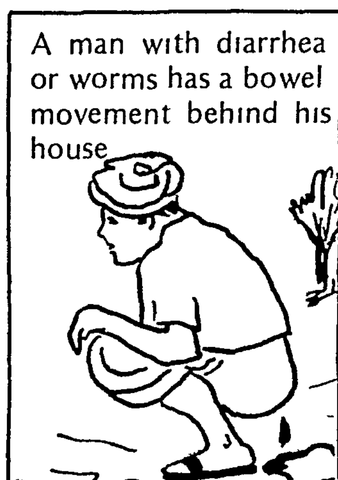
The way these infections are transmitted can be very direct

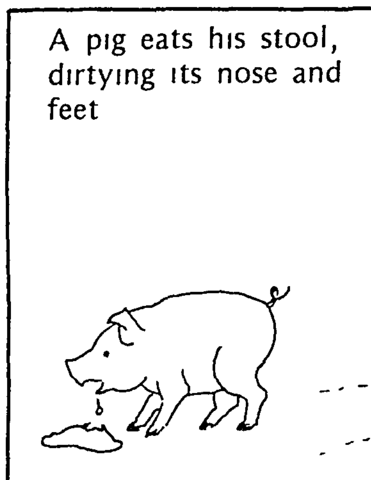
For example A child who has worms and who forgot to wash his hands after his last bowel movement, offers his friend a biscuit His fingers, still dirty with his own stool, are covered with hundreds of tiny worm eggs (so small they cannot be seen) Some of these worm eggs stick to the biscuit When his friend eats the biscuits,he swallows the worm eggs, too

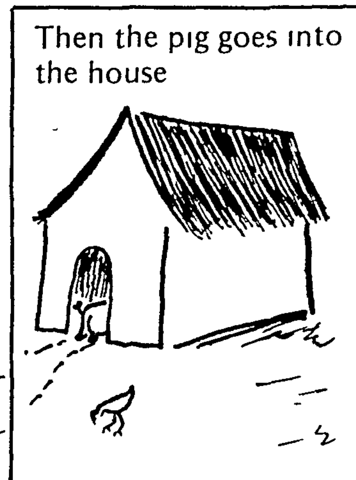
Soon the friend will also have worms His mother may say this is because he ate too many sweets But no, this is because he ate shit!

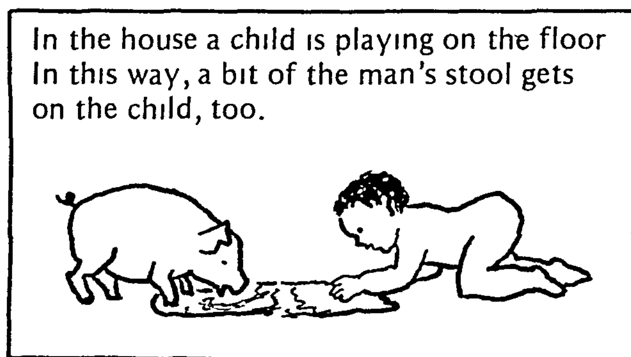


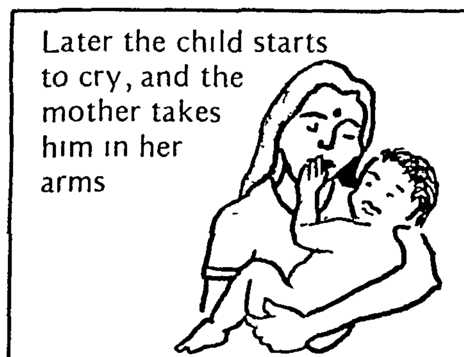
Many times pigs, dogs, chickens, and other animals spread intestinal disease and worm eggs For example

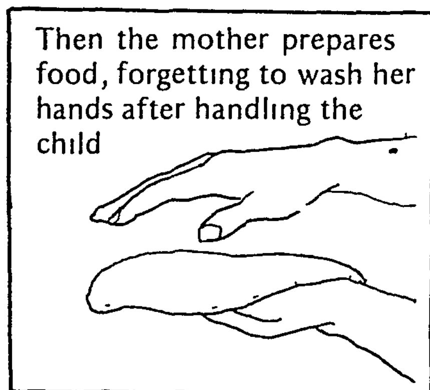


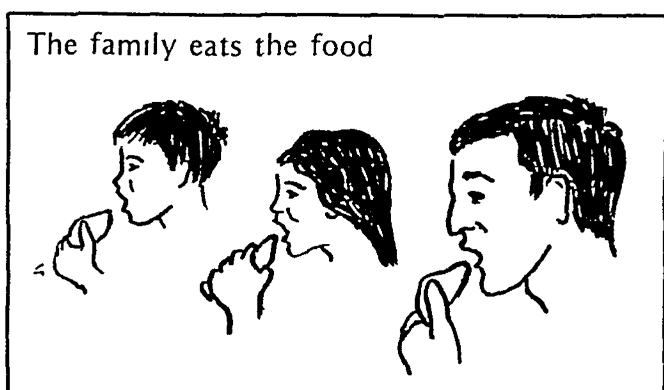


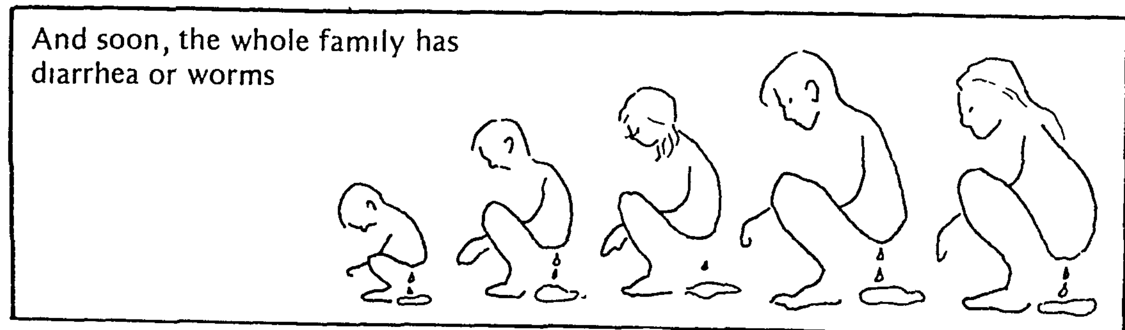












If the family had taken **any** or all of the following precautions, the spread of the sickness could have been prevented

- if the man had used a latrine or out-house,
- if there was no latrine and the man had covered his shit with mud,
- if the family had not let the pigs come into the house,
- if they had not let the child play where the pig had been,
- if the mother had washed her hands after touching the child and before preparing food

Flies and other insects also spread many infections of the digestive system For example



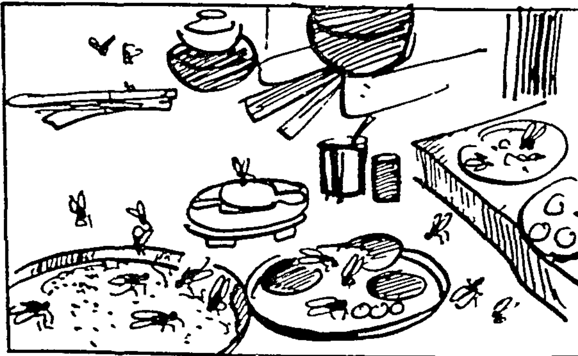
A man with cholera has a bowel movement near his house



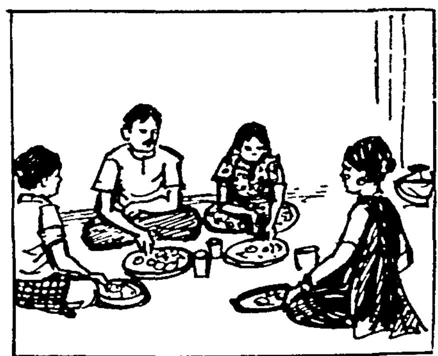
Flies sit on his stools and the germs which cause cholera stick to their legs



Some of these flies enter the kitchen



The flies sit on the food and rub their legs



The family eats this food.



The family gets cholera



The mother has a bowel movement near the house



Flies sit on her stools



Some of these flies enter a sweet shop and sit on the sweets



A child buys and eats these sweets



And soon, he also gets cholera

If the people had taken **any** of the following precautions, the spread of cholera could have been prevented

- If the man (and the other patients) had used a latrine or outhouse
- If there was no latrine, if they had covered their stools with mud
- If the food in the kitchen was kept covered
- If the sweets in the shop were kept covered
- If the child had not bought uncovered sweets

To prevent cholera and other diseases which are spread by flies

- if possible, put a wire netting on the kitchen doors and windows so that flies cannot enter
- keep all food and water covered

Drinking unclean water can also spread many diseases of the gut and the digestive tract For example



This man has hepatitis (jaundice)



He has a bowel movement near a pond The germs of the disease get into the water



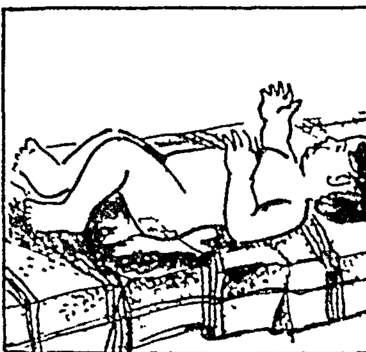
This woman takes water from the pond to her house



Her family drinks the water



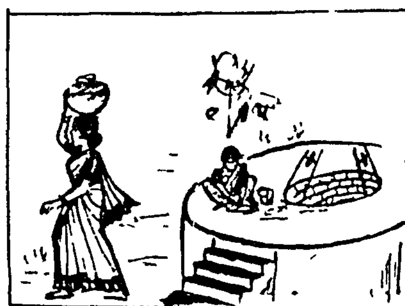
They all get hepatitis



The baby passes stools and dirties his clothes



The mother washes them near an open well



Another woman takes water from this well



Her family drinks this water



Her family also gets hepatitis

If the people had taken **any** of the following precautions, they could have prevented the spread of hepatitis

- if the man had not passed stools near the source of drinking water
- if both the women had boiled the water before giving it to their families to drink
- if the woman had not washed infected clothes near the well
- if the well had been protected with a wall and a platform

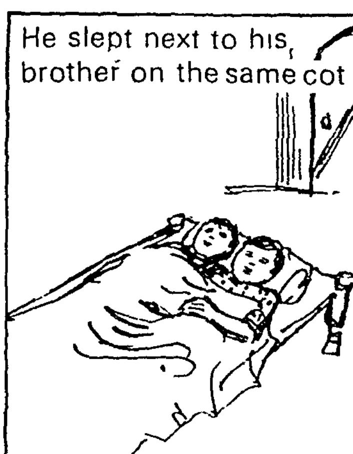
Because they are spread easily, intestinal infections often strike a whole village or community at the same time (epidemic)

If there are many cases of diarrhea, worms, and other *intestinal parasites in* your village, people are not being careful enough about cleanliness If many children die from diarrhea, it is likely that poor nutrition is also part of the problem **To prevent death from diarrhea, both cleanliness and good nutrition are important** (see p 185 and Chapter 11)

Infections spread by direct contact:

Many of these infections are transmitted through touch, or using or sharing the same clothes, beds, blankets towels Some of these infections can also be spread by just sitting together For example Lice, scabies



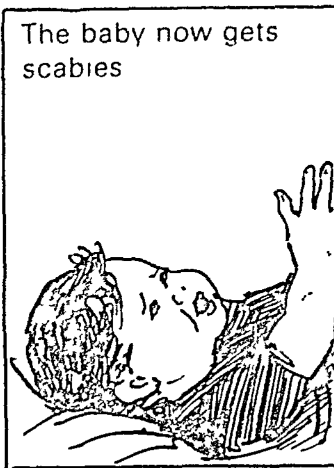
















If the boy and his family has taken **any** of the following precautions they could have prevented the spread of scabies

- if the boys had slept separately and had sat separate at school
- when the family knew the boy had scabies, if they had taken treatment for it all together
- *if they had regularly washed their clothes and dried them in the sun*

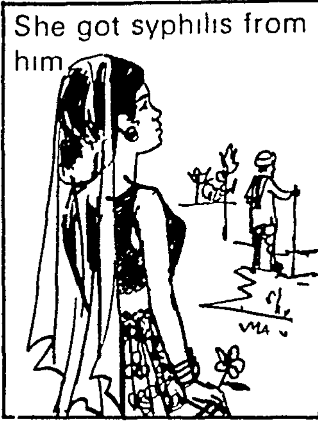
Venereal diseases also spread directly from one person to the other through sexual contact For example



This man has *syphilis*



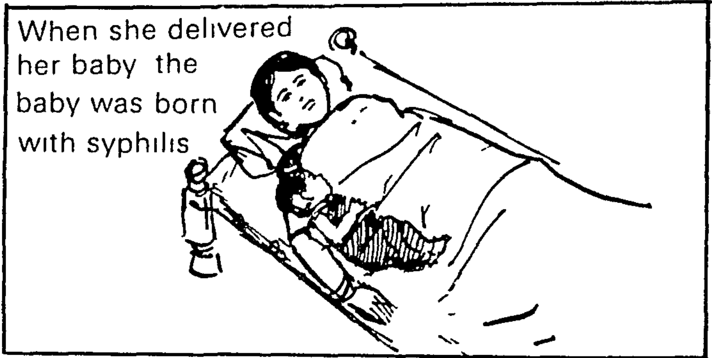
He had sexual contact with an unknown woman







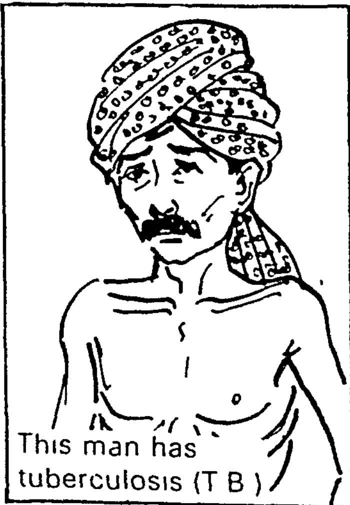




All venereal diseases spread through sexual contact If you suspect you have a venereal disease, tell the health worker And stop having sexual contact with anyone till the health worker says you can

Infections spread by coughing and sneezing:

These infections are very easy to get as the air around us normally has the germs causing such sicknesses For example



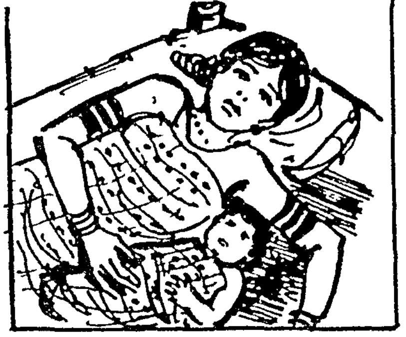





He also gets T B
He smokes a hookah and passes the germs onto the hookah


His friend smokes the same hookah and gets T B


He passes the germs to his pregnant wife (by coughing)


When she delivers her baby, the baby also gets T B after some time.

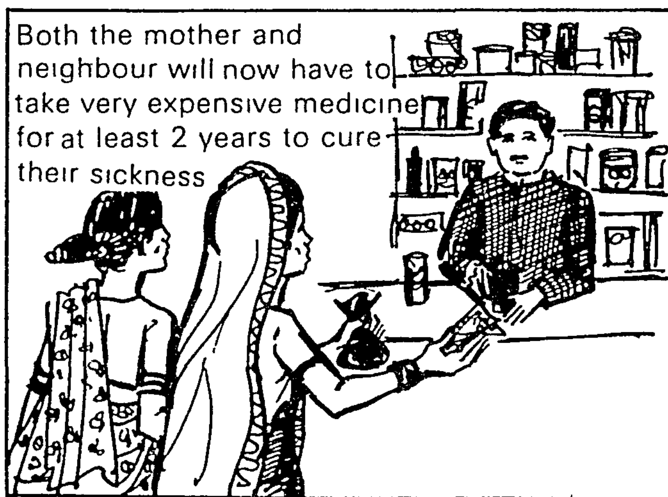

The mother starts taking treatment to cure her disease The health worker tells her that she must continue treatment for at least 1½ years


After 6 months, the mother feels better


She stops treatment and the germs inside her become resistant to the medicines





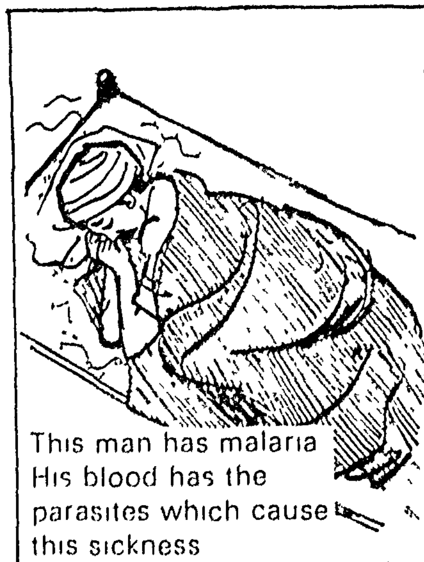


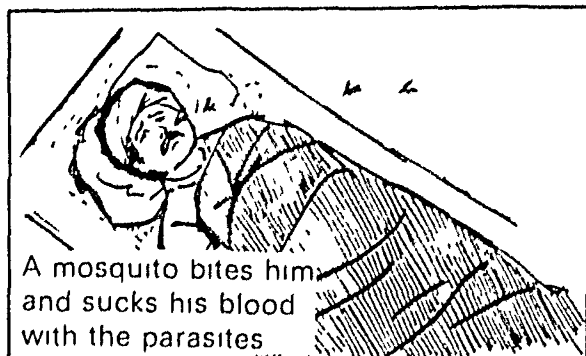
If all these people had taken the following precautions they would have stopped spreading T B

- if the man had covered his nose and mouth when coughing
- if the man had spat his phlegm in a covered container and then burnt it
- if the man had not given his hookah to his friend
- if they all had taken early treatment
- if the mother had taken complete regular treatment for 1½ years
- if they had all taken vaccination against T B before getting the disease

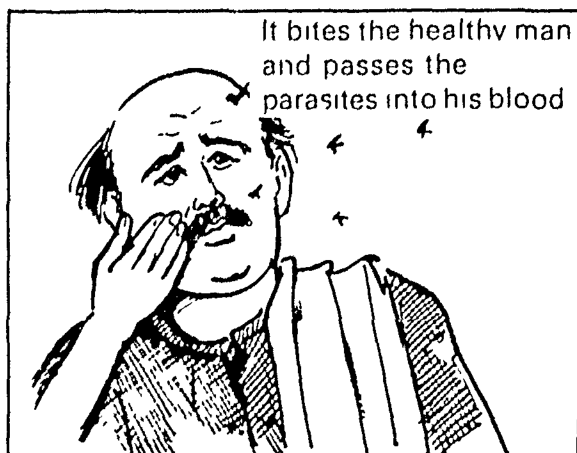
Infections spread by insects and other animals:

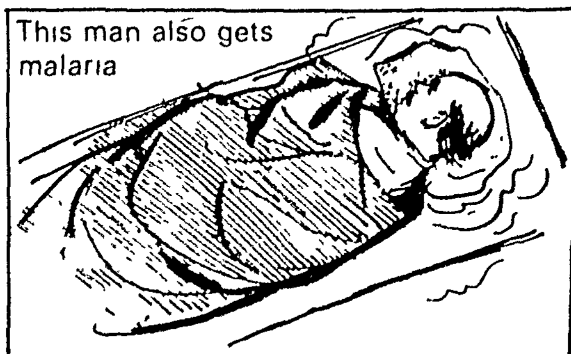
Among the diseases spread this way is malaria











If the man had taken **any**, of the following precautions, he would not have got malaria

- if he had slept under a mosquito net, or covered himself
- if he had got his house sprayed with an anti-mosquito spray

Most kinds of infections are passed from person to person in the ways just shown Most of them can be prevented by personal and public cleanliness

BASIC GUIDELINES OF CLEANLINESS

PERSONAL CLEANLINESS (HYGIENE)

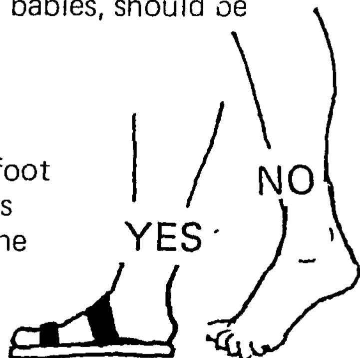


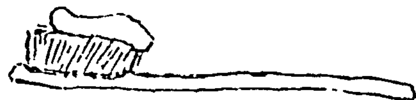
1 Always wash your hands with soap when you get up in the morning, after having a bowel movement, and before eating or preparing food Do not use mud or clay to wash hands



2 Bathe often—every day when the weather is hot Bathe after working hard or sweating Frequent bathing helps prevent skin infections, dandruff, pimples, itching, and rashes Sick persons, including babies, should be bathed daily

3 In areas where hookworm is common, do not go barefoot or allow children to do so Hookworm infection causes severe anemia These worms enter the body through the skin of the feet (see p 195)

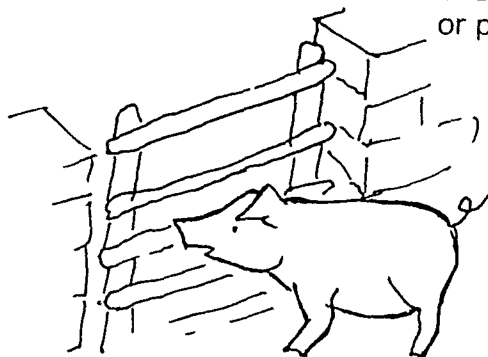




4 Brush your teeth every day and after each time you eat sweets If you do not have a toothbrush and toothpaste, rub your teeth with salt and baking soda (see p 274)

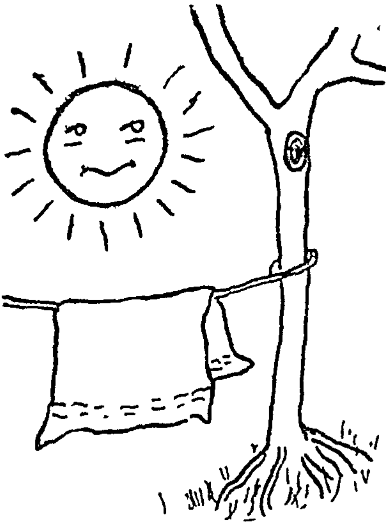
CLEANLINESS IN THE HOME.

1 Do not let pigs come into the house or places where children play



2 Do not let dogs lick children or climb up on beds Dogs, too, can spread disease





3 If children or animals have a bowel movement near the house, clean it up at once Teach them to use a latrine or at least to go farther from the house



4 Hang or spread sheets and blankets in the sun often If there are bedbugs, pour boiling water on the cots and wash the sheets and blankets—all on the same day

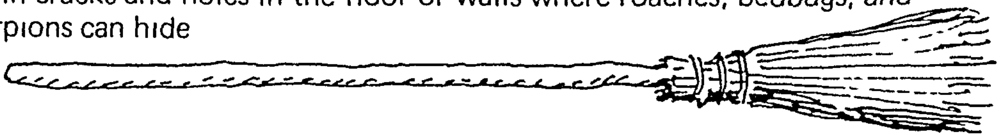


5 De-louse the whole family often (see p 242) Lice and fleas carry many diseases Dogs and other animals that carry fleas should not come into the house



6 Do not spit on the floor Spit can spread disease. When you cough or sneeze, cover your mouth with your hand or a cloth or handkerchief.

7 Clean house often Sweep and wash the floors, walls, and beneath furniture Fill in cracks and holes in the floor or walls where roaches, bedbugs, and scorpions can hide

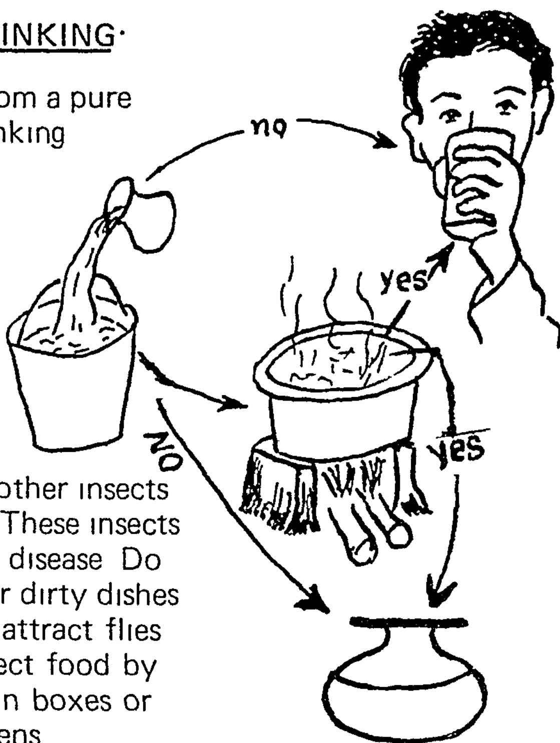


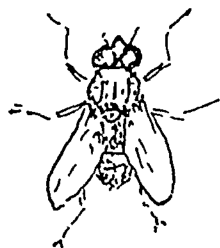
8 Plaster kutcha houses with wet mud regularly so as to keep away insects

CLEANLINESS IN EATING AND DRINKING·

1 Ideally all water that does not come from a pure water system should be boiled before drinking This is especially important for small children and at times when there is a lot of diarrhea or cases of typhoid, hepatitis, or cholera Water from holes or rivers, even when it looks clean, may spread disease if it is not boiled before use

Keep boiled water in covered mud pots.

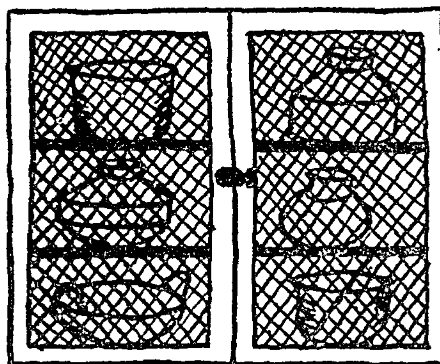




2 Do not let flies and other insects land or crawl on food These insects carry germs and spread disease Do not leave food scraps or dirty dishes lying around, as these attract flies and breed germs Protect food by keeping it covered or in boxes or cabinets with wire screens

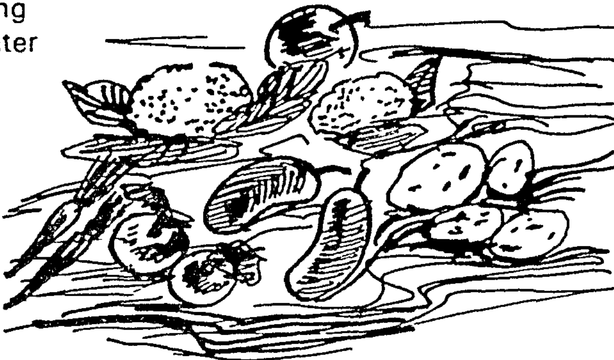
ALWAYS EAT FOOD THAT IS KEPT COVERED

3 Do not eat food that is kept uncovered Food that is sold outside on the roads such as laddus, jalebis, sweets, cut fruits, is usually kept uncovered You may have noticed flies sitting on them They contaminate the food If you eat this food, you may get diarrhoea Cholera and typhoid also spread this way

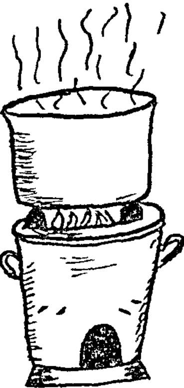




3 Often the water used for farming and gardening is not clean The water contains germs causing diarrhoea Fruits and other vegetables, especially vegetables which grow under the ground like carrots raddish, turnips lie in this water and have germs in them **Always wash vegetables and fruits before eating them.**



4 Before eating fruit that has fallen to the ground, wash it well. Do not let children pick up and eat food that has been dropped —wash it first



5 Only eat meat that is well cooked Be careful that roasted meat, especially pork, does not have raw parts inside Raw pork carries dangerous diseases



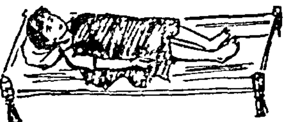
6 Do not eat food that is old or smells bad It may be poisonous Do not eat tinned food if the tin is swollen or squirts when opened Be especially careful with tinned fish



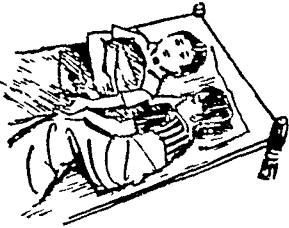


7 People with tuberculosis, flu, colds, or other infectious diseases should eat separately from others Plates and utensils used by sick people should be boiled before being used by others

HOW TO PROTECT YOUR CHILDREN'S HEALTH



1 A sick child like this one should sleep apart from children who are well

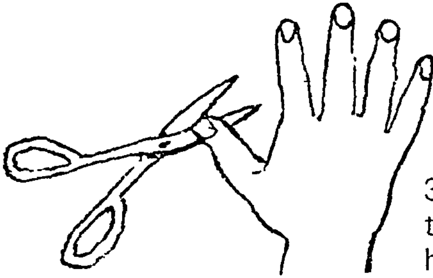


Sick children or children with sores, itchy skin, or lice should always sleep separately from those who are well Children with infectious diseases like whooping cough, measles, or the common cold should sleep in separate rooms, if possible, and should not be allowed near babies or small children

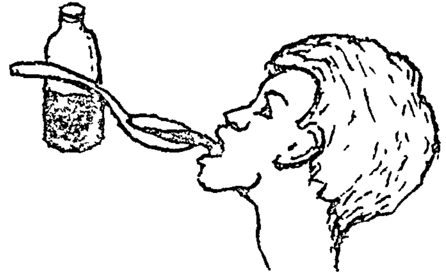


2 Protect children from tuberculosis People with long-term coughing or other signs of tuberculosis should cover their mouths whenever they cough They should **never** sleep in the same room with children They should see a health worker and be treated as soon as possible

Children living with a person who has tuberculosis should be vaccinated against TB (B C G Vaccine)

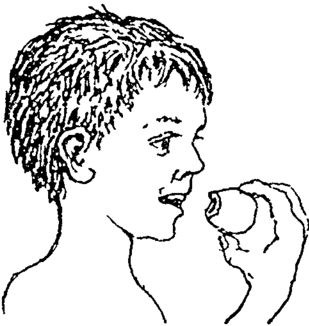


3 Bathe children, change their clothes, and cut their fingernails often Germs and worm eggs often hide beneath long fingernails



4 Treat children who have infectious diseases as soon as possible, so that the diseases are not spread to others

5 Follow all the guidelines of cleanliness mentioned in this chapter Teach children to follow these guidelines and explain why they are important Encourage children to help with projects that make the home or village a healthier place to live



6 **Be sure children get enough good food.** Good nutrition helps protect the body against many infections A well-nourished child will usually resist or fight off infections that can kill a poorly nourished child (read Chapter 11)

PUBLIC CLEANLINESS (SANITATION).

1 Keep wells and public ponds clean Do not let animals go near where people get drinking water If necessary, put a fence around the place to keep animals out

Do not defecate (shit) or throw garbage near the pond or well Take special care to keep rivers and streams clean upstream from any place where drinking water is taken

2 Burn all garbage that can be burned Garbage that cannot be burned should be buried in a special pit or place far away from houses and the places where people get drinking water

3. Build latrines (out-houses, toilets) so pigs and other animals cannot reach the human waste A deep hole with a little house over it works well



Here is a drawing of a simple out-house that is easy to build

It helps to throw a little lime, dirt, or ashes in the hole after each use to reduce the smell and keep flies away

Out-houses should be built at least 20 meters from homes or the source of water

If you do not have an out-house, go far away from where people bathe or get drinking water Teach your children to do the same

Use of latrines helps prevent many sicknesses.

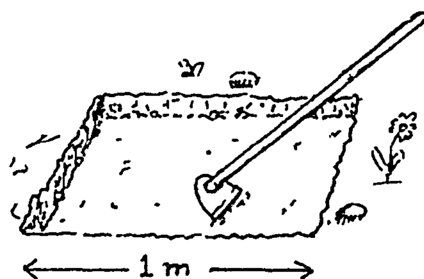
Ideas for better latrines are found on the next pages Also latrines can be built to produce good fertilizer for gardens For plans write to I T D G or V I T A (see p 438).

BETTER LATRINES.

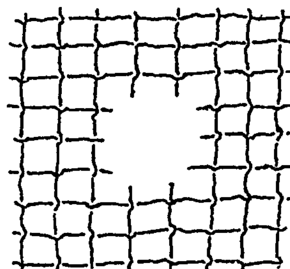
The latrine or out-house shown above is very simple and costs almost nothing to make But it is open at the top and lets in flies

Closed latrines are better because the flies stay out and the smell stays in A closed latrine has a platform or slab with a hole in it and a lid over the hole The slab can be made of wood or cement Cement is better because the slab fits more tightly and will not rot

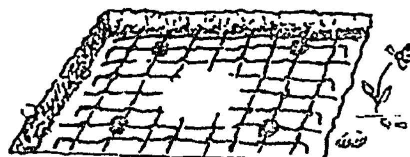
One way to make a cement slab



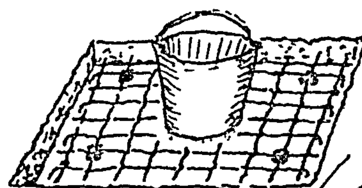
1 Dig a shallow pit, about 1 meter square and 7 cm deep Be sure the bottom of the pit is level and smooth



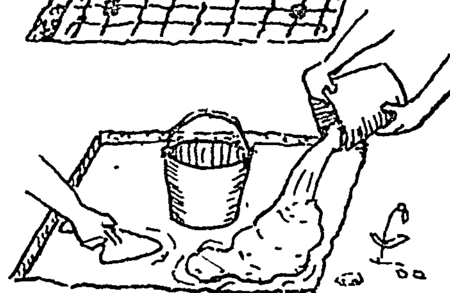
2 Make or cut a wire mesh or grid 1 meter square The wires can be ¼ to ½ cm thick and about 10 cm apart Cut a hole about 25 cm across in the middle of the grid



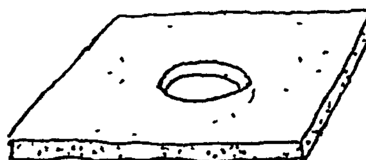
3 Put the grid in the pit Bend the ends of the wires, or put a small stone at each corner, so that the grid stands about 3 cm off the ground



4 Put an old bucket in the hole in the grid



5 Mix cement with sand, gravel, and water and pour it until it is about 5 cm thick (With each shovel of cement mix 2 shovels of sand and 3 shovels of gravel)



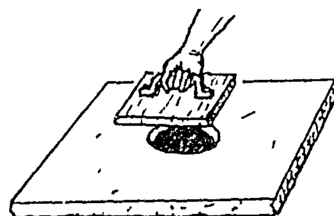
6 Remove the bucket when the cement is beginning to get hard (about 3 hours) Then cover the cement with damp cloths, sand, hay, or a sheet of plastic and keep it wet Remove slab after 3 days

To make the closed latrine, the slab should be placed over a round hole in the ground. Dig the hole a little less than 1 meter across and between 1 and 2 meters deep

To be safe, the latrine should be at least 20 meters from all houses, wells, springs, rivers, or streams If it is anywhere near where people go for water, be sure to put the latrine **downstream.**

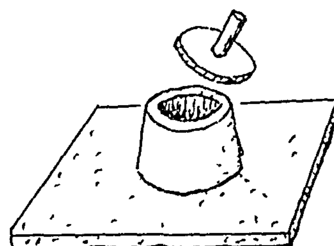
Keep your latrine clean Wash the slab often Teach children and others not to get it dirty

Be sure the hole in the slab has a cover and that the cover is kept in place A simple cover can be made of wood



If you prefer to sit when you use the latrine, you can make a cement seat like this

You will have to make a mold or you can use 2 buckets of different sizes, one inside the other



VACCINATIONS (IMMUNIZATIONS)— SIMPLE, SURE PROTECTION

Vaccines give protection against many dangerous diseases If health workers do not vaccinate in your village, take your children to the nearest health center to be vaccinated It is better to take them for vaccinations while they are healthy, than to take them for treatment when they are sick or dying Vaccinations are usually given free

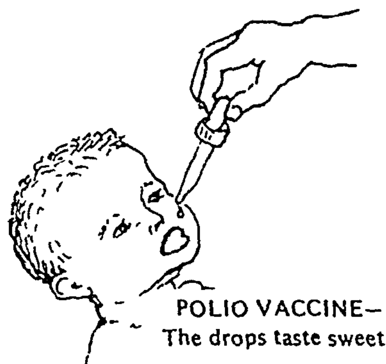
The most important vaccines for children are

1. **B.C.G., for tuberculosis.** A single injection is given into the skin of the right shoulder Children can be vaccinated at birth or any time afterwards Early vaccination is especially important if any member of the household has tuberculosis The vaccine makes a sore that heals after four weeks leaving a scar

2 D.P T, for diptheria, whooping cough (pertussis) and tetanus For full protection, the child needs three injections To be effective, all the three injections should be given from three to nine months of age There should be at least one to two months of interval between the injections

3 POLIO (infantile paralysis) The child needs at least three doses of polio vaccine This too should be given at a monthly interval from three months to nine months of age

Note · A fourth dose (booster dose) of D P T and polio vaccine can be given between 18 to 24 months of age



POLIO VACCINE— The drops taste sweet

4. *TETANUS* For adults and children over 12 years old, the most important vaccine is for tetanus (lockjaw) Two injections are given with an interval of one month A third injection is given 2 to 3 years after the second injection This protects the person for the next ten years from getting tetanus Every one should be vaccinated against tetanus—especially pregnant women, so that their babies will be protected against tetanus of the newborn (see p 223 and 296)

5 TYPHOID (TAB).This is given once in 6 months It is better to give this vaccination during the summer months The person may have pain and swelling at the site of the injection Give aspirin tablets to relieve pain

7. CHOLERA VACCINE: To be given once in 6 months, especially in summer or if there is any case of cholera in your area The person may get fever and pain at the site of the injection Give aspirin tablets to relieve the fever and pain

DO NOT GIVE ANY INJECTION DURING THE RAINY SEASON THIS IS THE SEASON OF POLIO EPIDEMIC EVEN ONE INJECTION MAY CAUSE PARALYSIS OF THE LIMBS

Vaccinate your children on time.
Be sure they get the complete series of each vaccine they need.

OTHER WAYS TO PREVENT SICKNESS AND INJURY

In this chapter we have talked about ways to prevent intestinal and other infections through **hygiene, sanitation,** and **vaccination.** All through this book you will find suggestions for the prevention of sickness and injury—from building healthy bodies by eating nutritious foods to the wise use of home remedies and modern medicines

The **Introduction to the Village Health Worker** gives ideas for getting people working together to change the conditions that cause poor health

In the remaining chapters, as specific health problems are discussed, you will find many suggestions for their prevention By following these suggestions you can help make your home and village healthier places to live

Keep in mind that one of the best ways to prevent serious illness and death is early and sensible treatment

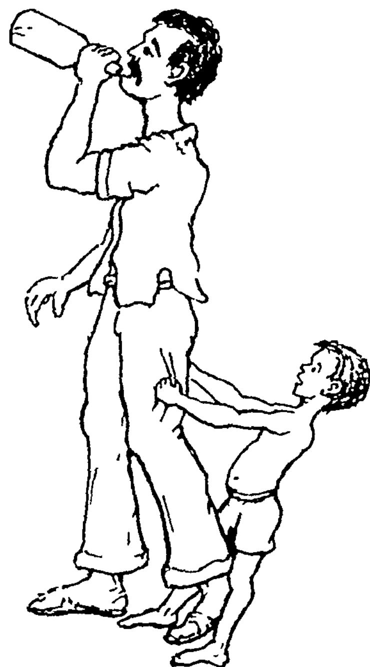
Early and sensible treatment is an important part of preventive medicine.

Before ending this chapter, I would like to mention a few aspects of prevention that are touched on in other parts of the book, but deserve special attention

Habits that Affect Health

Some of the habits that people have not only damage their own health but in one way or another harm those around them Many of these habits can be broken or avoided—but the first step is to understand why breaking these habits is so important

DRINKING



If alcohol has brought much joy to man, it has also brought much suffering—especially to the women and children of men who drink A little alcohol now and then may do no harm But too often a little leads to a lot In much of the world, heavy or excessive drinking is one of the underlying causes of major health problems—even for those who do not drink Not only can drunkenness harm the health of those who drink (through diseases such as cirrhosis of the liver, p 374) but it also hurts the family and community in many ways Through loss of judgment when drunk—and of self-respect when sober—it leads to much unhappiness, waste, and violence, often affecting those who are loved most

How many fathers have spent their last money on drink when their children were hungry? How many sicknesses result because a man spends the little bit of extra money he earns on drink rather than on improving his family's living conditions? How many persons, hating themselves because they have hurt those they love, take another drink—to forget?

Once a man realizes that alcohol is harming the health and happiness of those around him, what can he do? First, he must admit that his drinking is a problem He must be honest with himself and with others Some individuals are able to simply decide to stop drinking More often people need help and support—from family, friends, and others who understand how hard it may be to give up this habit People who have been heavy drinkers and have stopped are often the best persons to help others do the same

Drinking is not so much a problem of individuals as of a whole community A community that recognizes this can do much to encourage those who are willing to make changes If you are concerned about the misuse of alcohol in your community, help organize a meeting to discuss these problems and decide what actions to take

Many problems can be resolved when people work together and give each other help and support.

SMOKING:

There are many reasons why smoking is dangerous to your own and your family's health

1 Smoking increases the risk of cancer of the lungs and lips (The more you smoke, the greater the chance of dying of cancer)

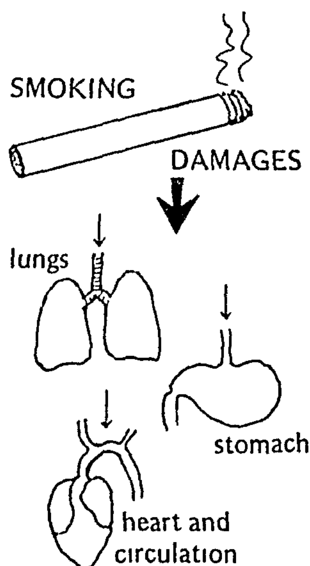
2 Smoking causes serious diseases of the lungs, including chronic bronchitis and emphysema (and is deadly for persons who already have these conditions or have asthma)

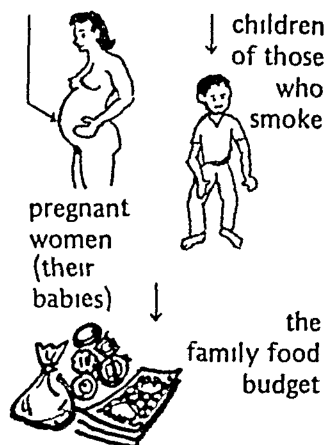
3 Smoking can help cause stomach ulcers or make them worse

4 Children whose parents smoke have more cases of pneumonia and other respiratory illness than children whose parents do not smoke

5 Smoking increases your chance of suffering or dying from heart disease or stroke

6 Babies of mothers who smoked during pregnancy are smaller and develop more slowly than babies whose mothers did not smoke





7 Parents, teachers, health workers, and others who smoke set an unhealthy example for children and young people, increasing the likelihood that they too will begin smoking

8 Also, smoking costs money It looks like little is spent, but it adds up to a lot In poorer countries, many of the poorest persons spend more on tobacco than the country spends per person on its health program **If money spent on tobacco were spent for food instead, children and whole families could be healthier.**

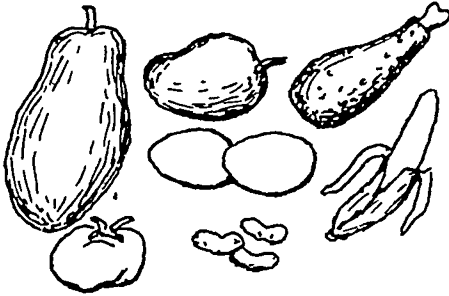
Anyone interested in the health of others should not smoke, and should encourage others not to smoke.

CARBONATED DRINKS (soft drinks, soda)

In some areas these drinks have become very popular Often a poor mother will buy **coloured** drinks for a child who is poorly nourished, when the same money could be better used to buy 2 eggs or other nutritious food

IF YOU WANT HEALTHY CHILDREN
AND HAVE A LITTLE MONEY TO BUY THEM SOMETHING .

buy them a couple of eggs or other nutritious food,



YES

not tea, coffee or soda



NO

Carbonated drinks have no nutritional value apart from sugar And for the amount of sugar they contain, they are very expensive. Children who are given a lot of carbonated drinks and other sweet things often begin to get cavities and rotten teeth at an early age Carbonated drinks are especially bad for persons with acid indigestion or stomach ulcer

Natural drinks you make from fruits are healthier and often much cheaper than carbonated drinks

Do not get your children used to drinking carbonated drinks.

CHAPTER

13 Some Very Common Sicknesses

DEHYDRATION

Most children who die from diarrhea die because they do not have enough water left in their bodies. This lack of water is called dehydration.

Dehydration results when the body loses more liquid than it takes in This can happen with severe diarrhea, especially when there is vomiting as well It can also happen in very serious illness, when a person is too sick to take much food or liquid

People of any age can become dehydrated, but **dehydration develops more quickly and is most dangerous in small children.**

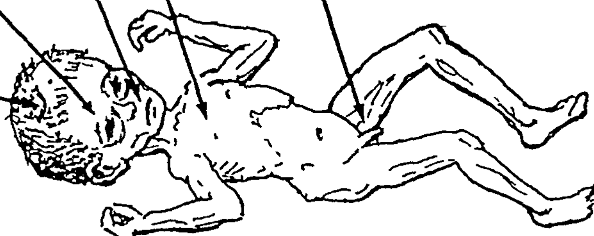
A baby needs water to drink, especially in hot weather Often a mother does not give water to her baby till he is six months old A baby cannot tell his mother he is thirsty, but needs water several times a day The mother should take water from a clean source and keep it in a covered pot. If possible, she should boil the water for her baby Especially when the baby has diarrhoea or vomiting, he loses a lot of water from his body He needs extra water many times a day

Any child with watery diarrhea is in danger of dehydration.

It is important that everyone—especially mothers—know the signs of dehydration and how to prevent and treat it

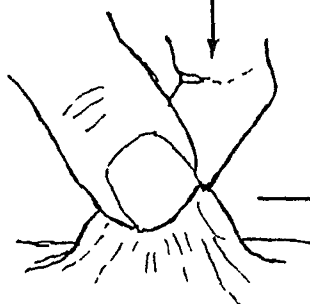
Signs of dehydration

- little or no urine, the urine is dark yellow
- sudden weight loss if previous weight is known
- dry mouth
- sunken, tearless eyes
- sagging in of the 'soft spot' in infants

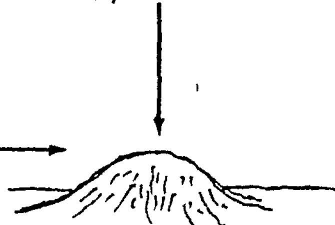


- loss of elasticity or stretchiness of the skin

Lift the skin between two fingers, like this



If the skin fold does not fall right back to normal, the child is dehydrated.



Very severe dehydration may cause rapid, weak pulse (see Shock, p. 89) fast, deep breathing, fever, or fits (convulsions, p. 217)

Prevention and treatment of dehydration

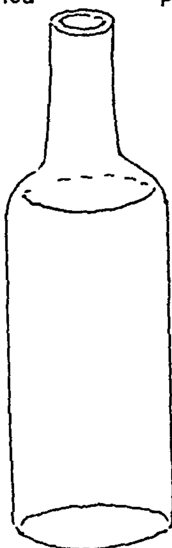
- A dehydrated person should drink large amounts of liquids water, tea, soup, etc But **do not wait for dehydration to begin.**

- Dehydration can usually be prevented if a person with diarrhea, with or without vomiting, is given plenty of liquids or Rehydration Drink from the very first This is especially important for small children with watery stools

- Especially useful in the prevention and treatment of dehydration is the following Rehydration Drink

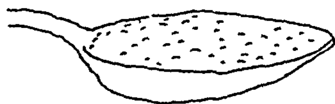
REHYDRATION DRINK—TO PREVENT AND TREAT DEHYDRATION

In 1 liter of boiled water



put

2 level tablespoons of sugar or honey (honey is better)



and

¼ teaspoon salt



and

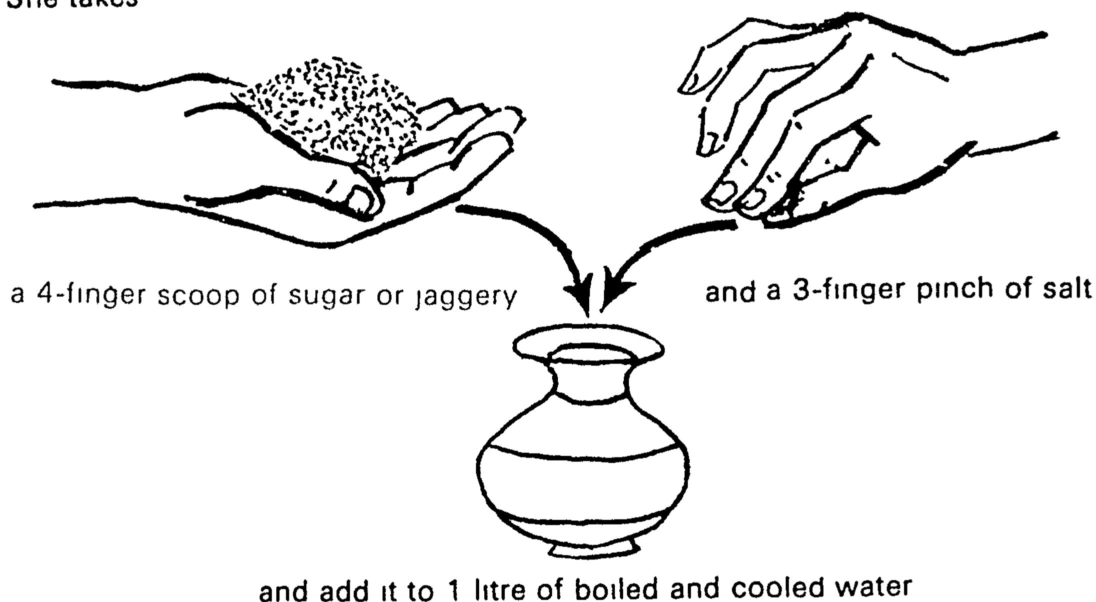
¼ teaspoon bicarbonate of soda



If you do not have soda, use another ¼ teaspoon salt.

If available, add half a cup of orange juice or a little lemon juice to the Drink.

A mother can also make the Rehydration Drink like this
She takes



Give the dehydrated person sips of this drink every 5 minutes, day and night, until he begins to urinate normally A large person needs 3 or more liters a day A small child needs at least 1 liter a day

Keep giving Rehydration Drink **often** in small sips, even if the person is vomiting If the dehydrated person cannot drink enough to correct the dehydration or if he vomits all he drinks, find a health worker who can give liquid through the veins (intravenous solution)

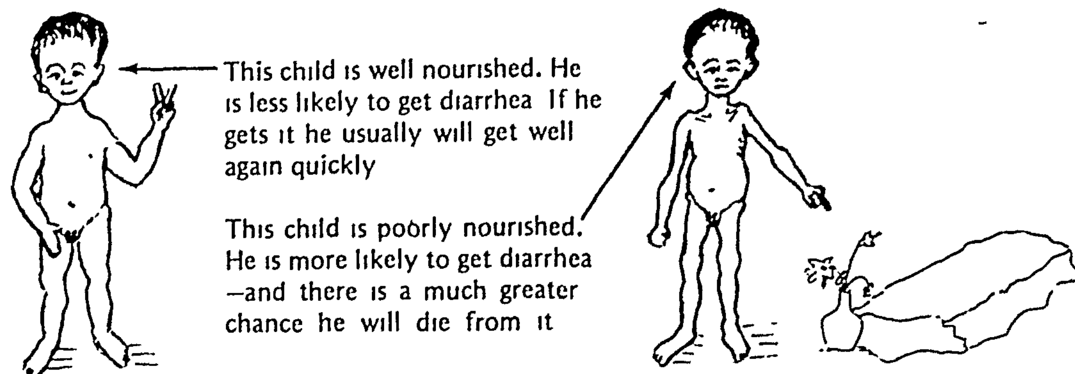
Note: When possible, make Rehydration Drink using bee's honey or **jaggery** rather than sugar Honey consists partly of a simple sugar (glucose) that the body can use more easily Even better than honey is glucose powder Making Rehydration Drink with glucose or honey is especially important if the child is very malnourished or has severe diarrhea In some areas you can get small packages of a Rehydration Mix containing glucose together with the right combination of different salts (see p 416)

DIARRHEA AND DYSENTERY

When a person has loose or watery stools, he has *diarrhea* If mucus and blood can be seen in the stools, he has *dysentery*

Diarrhea can be mild or serious It can be *acute* (sudden and severe) or *chronic* (lasting many days)

Diarrhea is more common and more dangerous in young children, especially those who are poorly nourished.



Diarrhea has many causes Sometimes special treatment is needed However, **most diarrhea can be treated successfully in the home,** even if you are not sure of the exact cause or causes

THE MAIN CAUSES OF DIARRHEA:

poor nutrition (p185) This weakens the child and makes diarrhea from other causes more frequent and worse

virus infection or 'intestinal flu' (diarrhea usually mild)

an infection of the gut caused by bacteria (p 155), amebas (p197), or giardia (p 198)

worm infections (p 193 to197)

infections outside the gut (ear infections, p 355 tonsillitis, p 356 measles, p 358 urinary infections, p. 278)

malaria (falciparum type-in parts of India, p 189)

food poisoning (spoiled food, p 170)

inability to digest milk (mainly in severely malnourished children and certain adults) These children may need a special enzyme tablet Consult a health worker

difficulty babies have digesting foods that are new to them

allergies to certain foods (seafood, crayfish, etc , p203); occasionally babies are allergic to cow's milk or other milk

side effects produced by certain medicines, such as ampicillin or tetracycline

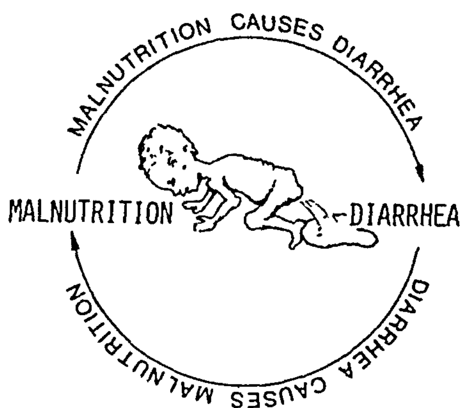
laxatives, purges, irritating or poisonous plants, certain poisons

eating too much unripe fruit or heavy, greasy foods

Preventing diarrhea

Although diarrhea has many different causes, the most common are **infection** and **poor nutrition. With good hygiene and good food, most diarrhea could be prevented.** And if treated correctly, fewer children who get diarrhea would die

Children who are poorly nourished get diarrhea and die from it far more often than those who are well nourished Yet diarrhea itself can be part of the cause of malnutrition And if malnutrition already exists, diarrhea rapidly makes it worse



THE 'VICIOUS CIRCLE' OF MALNUTRITION AND DIARRHEA TAKES MANY CHILDREN'S LIVES

Malnutrition causes diarrhea.
Diarrhea causes malnutrition.

This results in a vicious circle, in which each makes the other worse For this reason, **good nutrition is important in both the prevention and treatment of diarrhea.**

Prevent diarrhea by preventing malnutrition.
Prevent malnutrition by preventing diarrhea.

To learn about the kinds of foods that help the body resist or fight off different illnesses, including diarrhea, read Chapter 11

The prevention of diarrhea depends both on **good nutrition** and **cleanliness.** Many suggestions for personal and public cleanliness are given in Chapter 12 These include the use of **latrines,** the importance of **clean water,** and the **protection of foods** from dirt and flies

Here are some other important suggestions for preventing diarrhea in babies

- **Breast feed rather than bottle feed babies.** Give only breast milk for the first 4 months. Breast milk helps babies resist the infections that cause diarrhea If it is not possible to breast feed a baby, feed him with a cup and spoon **Do not use a baby bottle** because it is harder to keep clean and more likely to cause an infection



BREAST FEEDING HELPS PREVENT DIARRHEA

- When you begin to give the baby new or solid foods, start by giving him just a little, and mashing it well He has to learn how to digest new foods, and if he starts with too much at one time, he may get diarrhea
- Keep the baby clean—and in a clean place Try to keep him from putting dirty things in his mouth.
- Do not give babies unnecessary medicines

Treatment of diarrhea:

For most cases of diarrhea no medicine is needed. If the diarrhea is severe, the biggest danger is **dehydration.** If the diarrhea lasts a long time, the biggest danger is **malnutrition.** So the most important part of treatment has to do with giving **enough liquids** and **good food.** No matter what the cause of diarrhea, always take care with the following

1 PREVENT OR CONTROL DEHYDRATION A person with watery diarrhea must drink large amounts of liquids If diarrhea is severe or there are signs of dehydration, give him Rehydration Drink (p 182) Even if he does not want to drink, gently insist that he do so Have him take several swallows every few minutes

2 MEET NUTRITIONAL NEEDS **A person with diarrhea needs food as soon as he will eat.** This is especially important in small children or persons who are already poorly nourished

- A baby with diarrhea should go on breast feeding
- A small or underweight child, or anyone who is thin and weak, should get plenty of body-building foods (proteins) and energy foods all the time he has diarrhea—and also when he gets well If he stops eating because he is too sick or is vomiting, he should eat again as soon as he can **Although giving food may cause more frequent stools at first, it can save his life.**
- If a child who is underweight has diarrhea that lasts for many days or keeps coming back, give him more food rich in protein Often no other treatment is needed
- When an older child or adult who is **well nourished** has severe acute diarrhoea, he may recover more quickly on a liquid diet of teas, broths, or Rehydration Drink But if the diarrhoea lasts more than 1 day, he should begin taking food

FOODS FOR A PERSON WITH DIARRHEA		
When the person is vomiting or feels too sick to eat, he should drink	As soon as the person is able to eat, in addition to giving the drinks listed at the left, he should eat a balanced selection of the following foods or similar ones:	
	energy foods	body-building foods
tea	ripe or cooked bananas	dals and other pulses
rice water	rice	beans, lentils, or peas (well cooked and mashed)
chicken, meat, egg, or bean broth	dalia (broken wheat) or other well cooked grains	milk (sometimes this causes problems, see the next page)
sweetened drinks	fresh maize (well cooked and mashed)	eggs (boiled)
REHYDRATION DRINK	potatoes	chicken (boiled or roasted)
Breast milk	papaya	meat, well cooked, without fat or grease
		fish (well cooked)
DO NOT EAT OR DRINK		
fatty or greasy foods most raw fruits	highly seasoned food	alcoholic drinks any kind of laxative or purge

Diarrhea and milk:

Breast milk is the best food for babies Keep giving breast milk when the baby has diarrhea It does not cause diarrhea and will help the baby get better quickly

Cow's milk, Buffalo's milk or Goat's milk can be good sources of protein for children who have diarrhea However, if the child is badly malnourished, he may have trouble digesting the milk, and this may cause even more diarrhea If this happens, try giving less milk and mixing it with other foods But remember a **poorly nourished child with diarrhea must have enough protein.** so if less milk is given, well-cooked and mashed foods such as dals, beans, egg yolk, chicken, meat or fish should be added Beans are easier to digest if their skins have been peeled off and they are boiled and mashed

As the child gets better, he will usually be able to drink more milk without getting diarrhea

Medicines for diarrhea:

For most cases of diarrhea no medicines are needed. But in certain cases, using the right medicine can be important However, many of the medicines commonly used for diarrhea do little or no good Some are actually harmful

GENERALLY IT IS BETTER NOT TO USE THE FOLLOWING MEDICINES IN THE TREATMENT OF DIARRHEA.

'Anti-diarrhea' medicines with kaolin and pectin (such as *Kaopectate*, p 417) make diarrhea thicker and less frequent, but they do not correct dehydration or control infection Some anti-diarrhea medicines, like diphenoxylate *(Lomotil)* may even make infections last longer



'ANTI-DIARRHEA MEDICINES' ACT LIKE PLUGS THEY KEEP IN THE INFECTED MATERIAL THAT NEEDS TO COME OUT



'Anti-diarrhea' mixtures containing neomycin or streptomycin should not be used, as these may irritate the gut and do more harm than good

Antibiotics like ampicillin and tetracycline are useful in some cases of diarrhea But they themselves sometimes cause diarrhea, especially in small children If, after taking these antibiotics for more than 2 or 3 days, diarrhea gets worse rather than better, stop taking them—the antibiotics may be the cause.

Do not give tetracycline to a child below 8 years

Chloramphenicol has certain dangers in its use (see p 401) and should never be used for mild diarrhea or given to babies less than 1 month old

Laxatives and purges should never be given to persons with diarrhea They will make it worse and increase the danger of dehydration.

For some effective home cures for mild diarrhoea, see Chapter 1

Special treatment in different cases of diarrhea:

While most cases of diarrhea can be treated by giving plenty of liquids and nutritious food, sometimes special treatment is needed

In considering treatment, keep in mind that some cases of diarrhea, especially in small children, are caused by **infections outside the gut.** Always check for **infections of the ears,** the **throat,** and the **urinary system.** If found, these infections should be treated Also look for signs of **measles.**

If the child has mild diarrhea together with signs of a cold, the diarrhea is probably caused by a virus, or 'intestinal flu', and no special treatment is called for Give lots of liquids

In certain difficult cases of diarrhoea, you may need an analysis of the stools or other tests to know how to treat it correctly But usually you can learn enough by asking specific questions, seeing the stools, and looking for certain signs Here are some guidelines for treatment according to signs

1 **Sudden, mild diarrhea. No fever.** (Upset stomach? 'Intestinal flu'?)

- Drink lots of liquids Usually no special treatment is needed

Kaolin is useless in treating this as it does not attack the infection, nor treat dehydration, (see p417)

- If severe colic (painful cramps) is a problem, an antispasmodic like belladonna may help (For precautions and dosage, see p 415)

2 **Diarrhea with vomiting.** (Many causes)



- If a person with diarrhea is also vomiting, the danger of dehydration increases, especially in small children It is very important to give the Rehydration Drink (p 182) tea, fruit juice, or whatever liquids he will take Give sips every 5 to 10 minutes If vomiting does not stop soon, you can use medicines like promethazine (p 419) or phenobarbital (p 422)

- If you cannot control the vomiting or if the dehydration gets worse, seek medical help fast

3 **Diarrhea with mucus and blood. Often chronic. No fever.** (Possibly amebic dysentery For more details, see page 197)

Use metronidazole (p407)Take the medicine according to the recommended dose If the diarrhoea continues after treatment for 4 days, seek medical advice

4 **Acute diarrhea with fever, with or without blood.** (Bacterial dysentery? Typhoid? Malaria?)

• If the person with diarrhea has a fever lasting more than 6 hours after beginning treatment for dehydration, and seems very ill, give ampicillin if possible (p 399) If not, give tetracycline (p 400)

• If the persons's condition is very poor or he is not improving with ampicillin or tetracycline, seek medical help If there are signs of typhoid fever (see p 229), give chloramphenicol (p 401) in the recommended dose

• In areas where the *falciparum* type of malaria is common, it is a good idea that persons with diarrhea and fever also be treated with chloroquine (see p 405), especially if they have a large spleen

5 **Yellow, bad-smelling diarrhea with bubbles or froth, without blood or mucus.** (Giardia? See p 198)

• This may be caused by microscopic parasites called Giardia or perhaps by malnutrition In either case, plenty of liquid, nutritious food, and rest are often the only treatment needed Severe giardia infections can be treated with metronidazole (p 407) Mepacrine *(Atabrine)* is cheaper, but less effective

6 **Chronic diarrhea (diarrhea that lasts a long time or keeps coming back).**

• This is most commonly due to malnutrition, less commonly to a chronic infection such as that caused by amebas See that the child eats more nutritious food, especially foods rich in proteins (p 128) If the diarrhea still continues, seek medical help

7 **Diarrhea like rice water.** (Cholera?)

• Rice Water stools are a sign of cholera (see p 231) Cholera often comes in *epidemics* (striking, many people at once) and is usually worse in older children and adults ***Cholera should be reported to the health authorities.*** Contact your nearest Primary Health Centre

Dehydration is extreme, especially if there is vomiting also Treat dehydration continuously and either give twice the usual dose of *tetracycline* (p 400) or give the normal dose of chloramphenicol (p 401). Seek medical help Deaths in cholera are due to dehydration

Care of Babies with Diarrhea

Diarrhea is especially dangerous in babies and small children Often no medicine is needed, but special care must be taken because a baby can die very quickly of dehydration

• Continue breast feeding and also give sips of Rehydration Drink

GIVE HIM BREAST MILK



◆ If vomiting is a problem, give breast milk often, but only a little at a time Also give Rehydration Drink in small sips every 5 to 10 minutes.



◆ If there is no breast milk, try giving frequent small feedings of some other milk or milk substitute (like milk made from soybeans) **mixed to half normal strength with boiled water.** If milk seems to make the diarrhea worse, give some other protein (chicken, lean meat, or skinned mashed beans, eggs, mixed with honey, sugar, jaggery. or well-cooked rice or another starchy food, and boiled water)

◆ If the child is younger than 1 month, try to find a health worker before giving any medicine If there is no health worker and the child is very sick, give him an 'infant syrup' that contains ampicillin (see p 399) It is better not to use other antibiotics

When to Seek Medical Help in Cases of Diarrhea

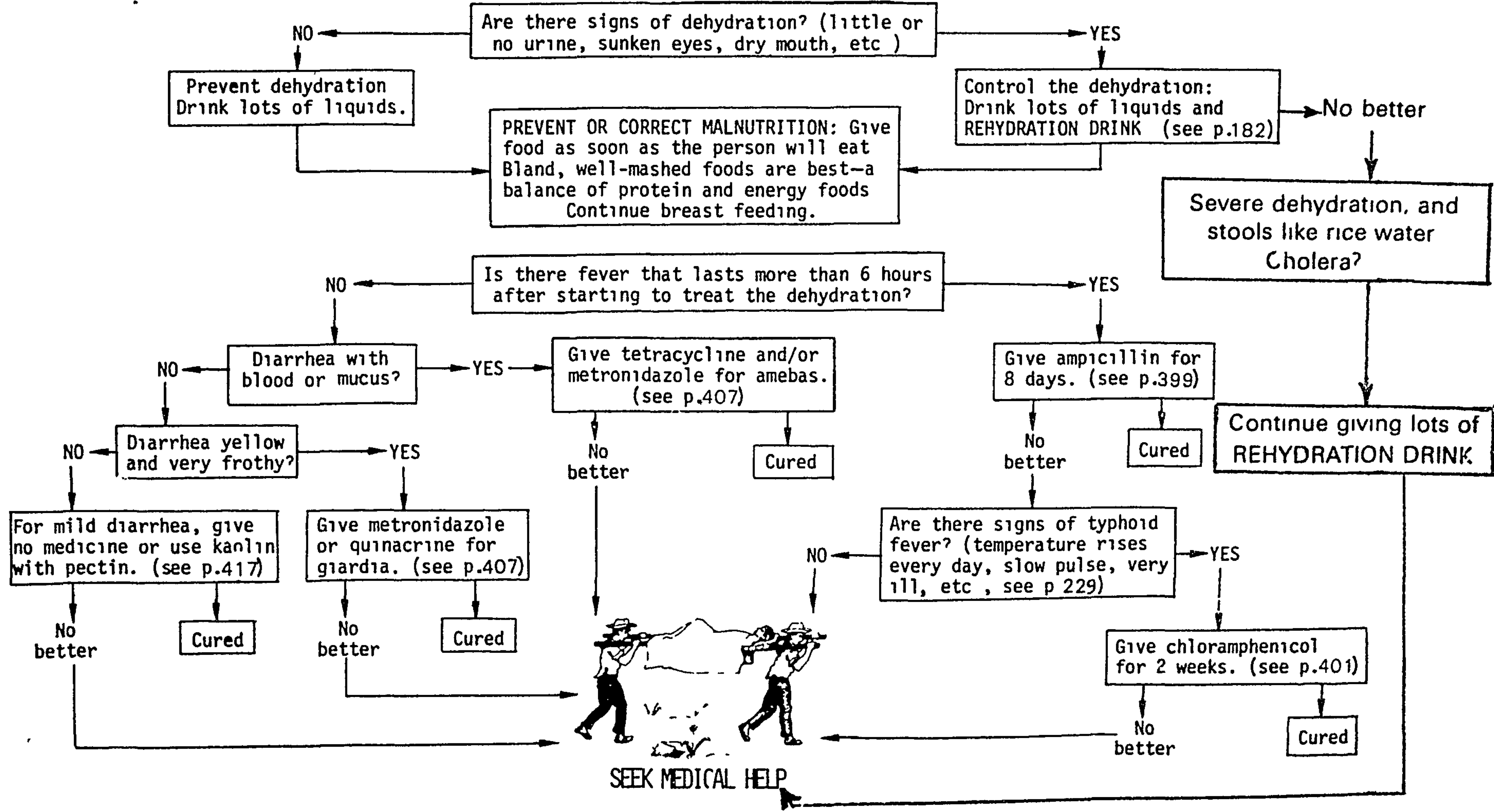
Diarrhea and dysentery can be very dangerous—especially in small children. **In the following situations you should get medical help:**

- if diarrhea lasts more than 4 days and is not getting better—or more than 1 day in a small child with severe diarrhea
- if the person is dehydrated and getting worse
- if the child vomits everything he drinks, or drinks nothing
- if the child begins to have fits, or if the feet and face swell
- if the person was very sick, weak, or malnourished before the diarrhea began (especially a little child or a very old person)
- if there is much blood in the stools, this can be dangerous even if there is little diarrhea (see gut obstruction, p 107)

VOMITING

Many people, especially children, have an occasional 'stomach upset' with vomiting Often no cause can be found There may be mild stomach or gut ache or fever This kind of simple vomiting usually is not serious and clears up by itself

THE CARE OF A PERSON WITH ACUTE DIARRHEA



Vomiting is one of the signs of many different problems, some minor and some quite serious, so it is important to examine the person carefully. Vomiting often comes from a problem in the stomach or guts, such as an infection (see diarrhea, p. 183), poisoning from spoiled food (p. 170), or 'acute abdomen' (for example, appendicitis or something blocking the gut, p. 107). Also, almost any sickness with high fever or severe pain may cause vomiting, especially malaria (p. 227), hepatitis (p. 209), tonsillitis (p. 356), earache (p. 355), meningitis (p. 226), urinary infection (p. 278), gallbladder pain (p. 375) or migraine headache (p. 199).



Danger signs with vomiting—seek medical help quickly!

- dehydration that increases and that you cannot control, (p. 181)
- severe vomiting that lasts more than 24 hours
- violent vomiting, especially if vomit is dark green, brown, or smells like feces (signs of obstruction, p. 107)
- constant pain in the gut, especially if the person cannot defecate (shit) or if you cannot hear gurgles when you put your ear to the belly (see acute abdomen: obstruction, appendicitis, p. 107)
- vomiting of blood (ulcer, p. 149, cirrhosis, p. 374)

To help control simple vomiting:

- Eat nothing while vomiting is severe.
- Sip some tea with sugar but without any milk. Adding ginger or lime juice may also help.



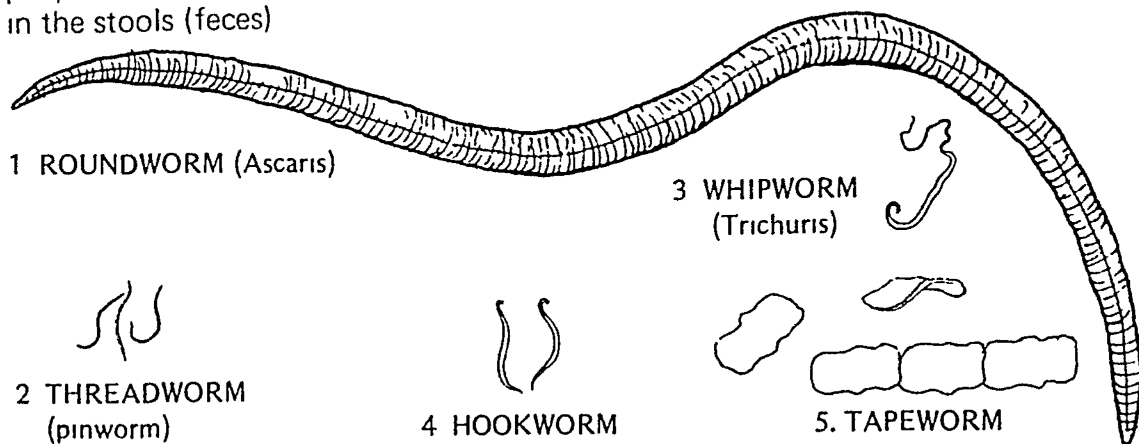
- Sip a cola drink or ginger ale. Some herbal teas, like camomile, may also help.
- For dehydration give small frequent sips of cola, tea, or Rehydration Drink (p. 182).
- If vomiting does not stop soon, use a vomit-control medicine like promethazine (p. 419), diphenhydramine (p. 419) or phenobarbital (p. 422).

Most of these come in pills, syrups, injections, and suppositories (soft pills you push up the *anus*). Tablets or syrup can also be put up the anus. Grind up the tablet in a little water. Put it in with an enema set or syringe without a needle.

When taken by mouth, the medicine should be swallowed with very little water and nothing else should be swallowed for 5 minutes. Never give more than the recommended dose. Do not give a second dose until dehydration has been corrected and the person has begun to urinate. If severe vomiting and diarrhea make medication by mouth or anus impossible, give an injection of 1 of these vomit-control medicines. Promethazine may work best. Take care not to give too much.

WORMS AND OTHER INTESTINAL PARASITES

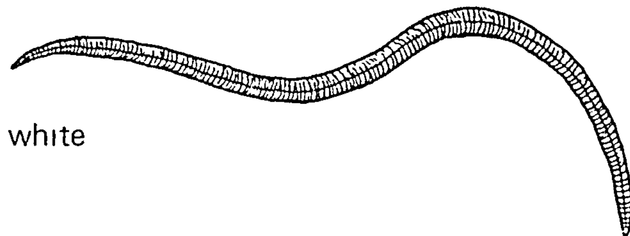
There are many types of worms and other tiny animals (parasites) that live in people's intestines and cause diseases Those which are larger are sometimes seen in the stools (feces)



The only worms commonly seen in the stools are roundworms, threadworms, and tapeworms Hookworms and whipworms may be present in the gut in large numbers without ever being seen in the stools

Note: The most popular 'worm medicines' contain piperazine These work only for roundworms and threadworms Other worms must be treated with other medicines

Roundworm (Ascaris):



20 to 30 cm long Color pink or white

How they are spread:

Feces-to-mouth Through lack of cleanliness, the roundworm eggs pass from one person's stools to another person's mouth

Effect on health:

Once the eggs are swallowed, young worms hatch and enter the bloodstream, this may cause general itching The young worms then travel to the lungs, sometimes causing a dry cough or, at worst, pneumonia with coughing of blood The young worms are coughed up, swallowed, and reach the intestines, where they grow to full size

Many roundworms in the intestines may cause discomfort, indigestion, and weakness Children with many roundworms often have very large, swollen bellies Rarely, roundworms may cause asthma, fits, or a dangerous obstruction or blockage in the gut (see p 107) When the child has a fever, the worms sometimes come out in the stools or crawl out through the mouth or nose Occasionally they crawl into the airway and cause gagging

Prevention.

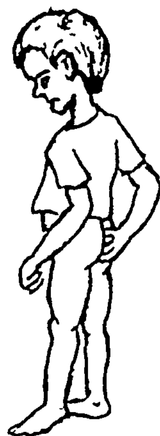
Use latrines, wash hands before eating or handling food, protect food from flies, and follow the guidelines of cleanliness described in the first part of' Chapter 12

Treatment:

One dose of piperazine will usually get rid of roundworms For dosage, see page 411 Some home remedies work fairly well For a home remedy **see chapter 1**

Threadworm (Pinworm, Enterobius): 

1 cm long Color white Very thin and threadlike



How they are transmitted:

These worms lay thousands of eggs just outside the anus (ass hole) This causes itching, especially at night When a child scratches, the eggs stick under his nails, and are carried to food and other objects In this way they reach his own mouth or the mouths of others, causing new infections of threadworms

Effect on health:

These worms are not dangerous Itching may disturb the child's sleep

Treatment and Prevention

- A child who has pinworms should wear tight diapers or pants while sleeping to keep him from scratching his anus
- Wash the child's hands and buttocks (anal area) when he wakes up and after he has a bowel movement Always wash his hands before he eats
- Cut his fingernails very short
- Change his clothes and bathe him often—wash the buttocks and nails especially well
- Put ***Vaseline,*** or some mustard oil in and around his anus at bedtime to help stop itching
- Give him a worm medicine that contains piperazine For dosage, see page 411 When one child is treated for these worms, it is wise to treat the whole family at the same time For home remedies, see Chapter 1
- Cleanliness is the best prevention for threadworms Even if medicine gets rid of the worms, they will be picked up again if care is not taken with personal hygiene Pinworms only live for about 6 weeks **By carefully following the guidelines of cleanliness, most of the worms will be gone within a few weeks, even without medicine.**

Whipworm (Trichuris, Trichocephalus):



3 to 5 cm. long Color pink or gray

This worm, like the roundworm, is passed from the feces of one person to the mouth of another person Usually this worm does little harm, but it may cause diarrhea. In children it occasionally causes part of the intestines to come out of the anus (*prolapse* of the *rectum*)

Prevention: The same as for roundworm

Treatment: If the worms cause a problem, give thiabendazole or mebendazole For dosage, see pages 411 and 412 For prolapse of the rectum, make the child sit in a tub of warm water This should make the intestine pull back in If this does not work, seek medical help.

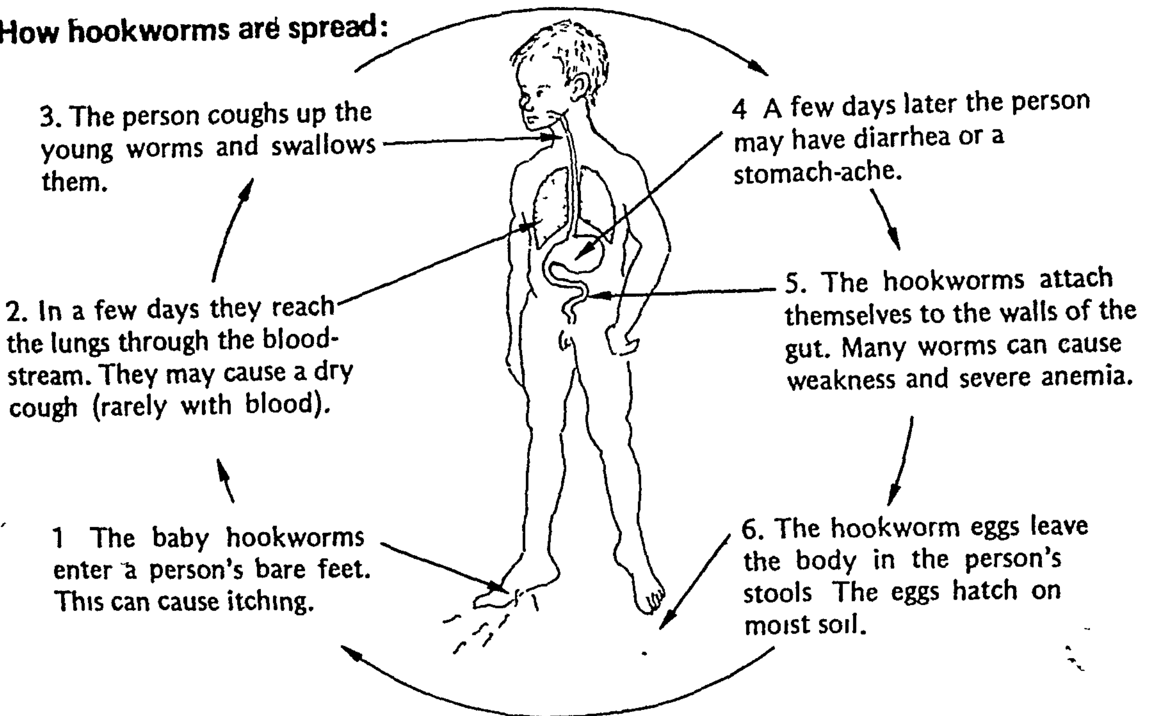
Hookworm:



1 cm long Color red

Hookworms cannot usually be seen in the feces A stool analysis is needed to prove that they are there

How hookworms are spread:



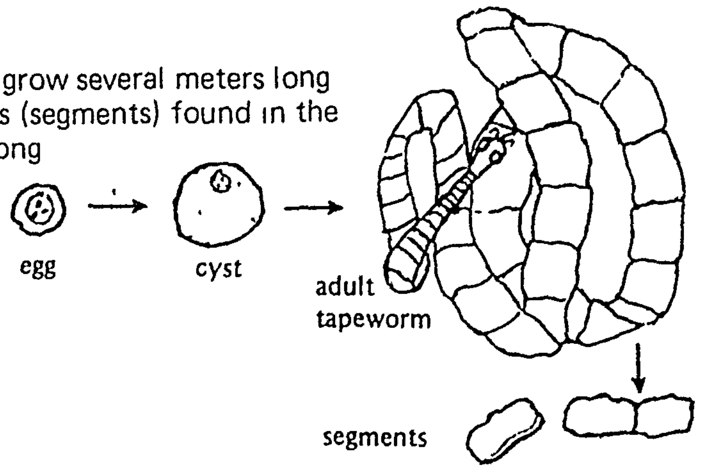
Hookworm infection can be one of the most damaging diseases of childhood Any child who is anemic, very pale, or eats dirt may have hookworms If possible, his stools should be analyzed

Treatment: Use thiabendazole, mebendazole, tetrachloroethylene (T.C E), or bephenium. For dosage and precautions, see pages 411 and 412 Treat anemia by eating foods rich in iron and if necessary by taking iron pills (p 147)

Prevent hookworm: **Build and use latrines.**
Do not go barefoot

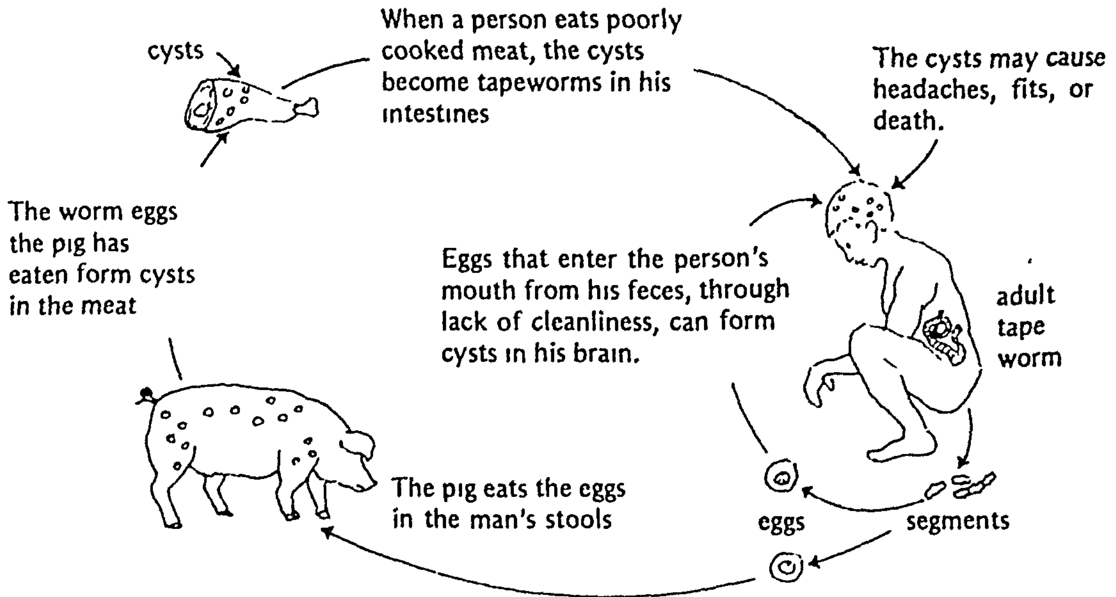
Tapeworm:

In the intestines tapeworms grow several meters long But the small, flat, white pieces (segments) found in the feces are usually about 1 cm long Occasionally a segment may crawl out by itself and be found in the underclothing



People get tapeworms from eating pork (pig meat), beef (cow meat) or other meat that is not well cooked

Prevention · **Be careful that all meat is well cooked, especially pork.** Make sure no parts in the center of roasted meat are still raw



Effect on health: Tapeworms in the intestines sometimes cause mild stomach-aches, but few other problems

The greatest danger exists when the *cysts* (small sacs containing baby worms) get into a person's brain This happens when the eggs pass from his stools to his mouth For this reason, **anyone with tapeworms must follow the guidelines of cleanliness carefully—and get treatment as soon as possible.**

Treatment · Take niclosamide (see p 412), dichlorophen(p. 413) or quinacrine (mepacrine, *Atabrine,* p 407) Follow instructions carefully For home remedies, see Chapter 1 page 19

Trichinosis:

These worms are never seen in the stools They burrow through the person's intestines and get into his muscles People get these worms, like tapeworms, from eating infected pork or other meat that is not well cooked

Effect on health: Depending on the amount of infected meat eaten, the person may feel no effects, or he may become very sick or die From a few hours to 5 days after eating the infected pork, the person may develop diarrhea and feel sick to his stomach

In serious cases the person may have

- fever with chills
- muscle pain
- swelling around the eyes and sometimes swelling of the feet
- small bruises (black or blue spots) on the skin
- bleeding in the whites of the eyes

Severe cases may last 3 or 4 weeks

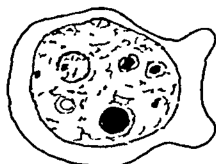
Treatment. Seek medical help at once Thiabendazole may help a little For dosage, see p 411 (Cortico-steroids may also help, but should be given by a health worker or doctor)

Important: If several people who ate meat from the same pig get sick afterward, suspect trichinosis This can be dangerous, seek medical attention

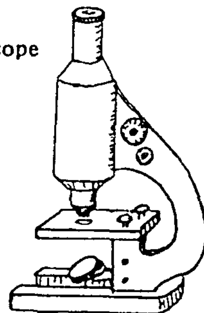
Prevention of trichinosis:

- Eat pork and other meat only if it is well-cooked
- Do not feed scraps of meat or leftovers from butchering to pigs

Amebas:


Ameba as seen under microscope

These are not worms, but tiny animals—or parasites—that can be seen only with a *microscope* (an instrument that makes things look much bigger)


Microscope

How they are transmitted:

The stools of infected people have millions of these tiny parasites Because of poor sanitation, they get into the source of drinking water or into food, and other people become infected.

Signs of infection with amebas.

Many healthy people have amebas without becoming sick However, amebas are a common cause of severe diarrhea or *dysentery* (diarrhea with blood)—especially in persons already weakened by other sickness or poor nutrition Less commonly, amebas cause painful, dangerous abscesses in the liver

Typical amebic dysentery consists of

- diarrhea that comes and goes—sometimes alternating with constipation
- cramps in the belly and a need to have frequent bowel movements, even when little or nothing—or just mucus—comes out
- many loose (but usually not watery) stools with lots of mucus, sometimes stained with blood
- in severe cases, much blood, the person may be very weak and ill
- usually there is no fever

Diarrhea with blood may be caused by either amebas or bacteria. However, bacterial dysentery (Shigella) begins more suddenly, the stools are more watery, and there is almost always fever (p 189). As a general rule:

Diarrhea + blood + fever = bacterial infection (Shigella)
Diarrhea + blood + no fever = amebas

Occasionally bloody diarrhea has other causes To be sure of the cause, a ***stool analysis*** may be necessary

Sometimes amebas get into the liver and form an **abscess** or pocket of pus This causes tenderness or pain in the right upper belly Pain may extend into the right chest and is worse when the person walks. (Compare this with gallbladder pain, p 375) hepatitis, p 209) and cirrhosis, p 374) If the person with these signs begins to cough up a brown liquid, an amebic abscess is draining into his lung.

Treatment:

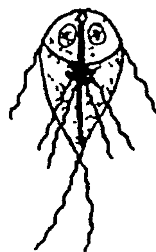
- If possible get medical help and a stool analysis
- Mild gut infection with amebas can be treated with metronidazole (for dosage, length of treatment, and precautions, see p 407)
- For severe dysentry or amebic abscess, take metronidazole (for dosage see p 407) If metronidazole is not available, use chloroquine (p. 405) Seek medical help

***Prevention*:** Make and use latrines, protect the source of drinking water, and follow the guidelines of cleanliness Eating well and avoiding fatigue and drunkenness are also important in preventing amebic dysentery

Giardia:

The giardia, like the ameba, is a microscopic parasite that lives in the gut and is a common cause of diarrhea, especially in children The diarrhea may be *chronic* or intermittent (may come and go)

A person who has yellow, bad-smelling diarrhea that is frothy (full of bubbles) but without blood or mucus, probably has giardia. The belly is swollen with gas and uncomfortable, there are mild intestinal cramps, and the person farts a lot There is usually no fever



Giardia as seen under a microscope

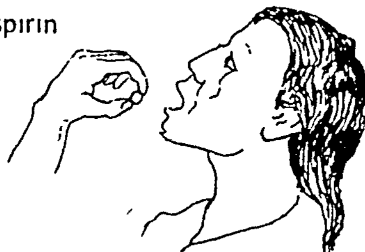
Giardia infections often clear up by themselves Good nutrition helps Severe cases are best treated with metronidazole (for dosage, see p 407) Quinacrine (p 407) is cheaper but does not work as well

HEADACHES AND MIGRAINES

SIMPLE HEADACHE can be helped by rest and aspirin It often helps to put a cloth soaked in hot water on the back of the neck and to massage (rub) the neck and shoulders gently Some other home remedies also seem to help

For simple or nervous headache, folk cures sometimes work as well as modern medicine

Headache is common with any sickness that causes fever If headache is severe, check for signs of meningitis (p 225)



Headaches that keep coming back may be a sign of a chronic illness of poor eye sight It is important to eat well and get enough sleep If the headaches do not go away, seek medical help.

A **MIGRAINE** is a severe throbbing headache often on one side of the head only Migraine attacks may come often, or months or years apart

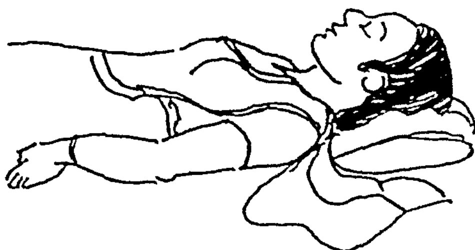
A typical migraine begins with blurring of vision, seeing strange spots of light, or numbness of one hand or foot This is followed by severe headache, which may last hours or days Often there is vomiting Migraines are very painful, but not dangerous

<u>TO STOP A MIGRAINE, DO THE FOLLOWING AT THE FIRST SIGN:</u>

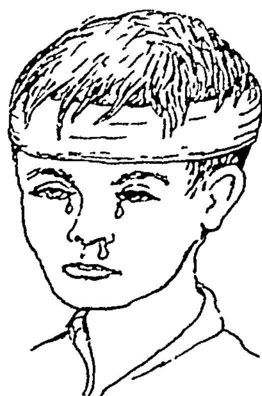
- Take 2 aspirins with a cup of strong coffee or strong black tea
- Lie down in a dark, quiet place Do your best to relax Try not to think about your problems
- For especially bad migraine headaches, obtain pills of ergotamine with caffeine (*Cafergot,* p 415) Take 2 pills at first and 1 pill every 30 minutes until the pain goes away Do not take more than 6 pills in 1 day







COLDS AND THE FLU



Colds and the flu are common virus infections that may cause runny nose, cough, sore throat, and sometimes fever or pain in the joints There may be mild diarrhea, especially in young children

Colds and the flu almost always go away without medicine **Do not use penicillin, tetracycline, or other antibiotics,** as they will not help at all and may cause harm

- Drink plenty of water and get enough rest

- Aspirin (p 414) or acetaminophen (p 414) helps lower fever and relieve body aches and headaches More expensive 'cold tablets' are no better than aspirin So why waste your money?

- Inhale steam, this helps to clear a stuffy nose (see page 205)

- No special diet is needed However, fruit juices, especially orange juice or lemonade, are helpful

For treating coughs and stuffy noses that come with colds, see the following pages

If a cold or the flu lasts more than a week, or if the person has fever, coughs up a lot of *phlegm* (mucus with pus), has shallow fast breathing or chest pain, he could be developing bronchitis or pneumonia (see p 207 and 208) An antibiotic may be called for The danger of a cold turning into pneumonia is greater in old people **small children** and those who have lung problems like chronic bronchitis

Sore throat is often part of a cold No special medicine is needed, but it may help to gargle with warm water. However, if the sore throat begins suddenly, with high fever, it could be streptococcal throat Special treatment is needed (see p 356).

Prevention of colds:

- Getting enough sleep and eating well helps prevent colds Eating oranges, tomatoes, and other fruit containing vitamin C may also help

- Contrary to popular belief, colds do not come from getting cold or wet **but can be made worse by getting wet** A cold is 'caught' from others who have the infection and sneeze the virus into the air

- To keep from giving his cold to others, the sick person should eat and sleep separately—and take special care to keep far away from small babies He should cover his nose and mouth when he coughs or sneezes

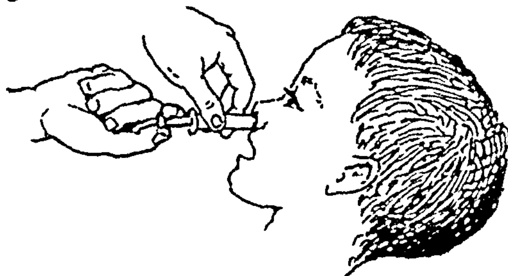
- To prevent a cold from leading to earache (p 355) **do not blow your nose—just wipe it.** Teach children to do the same

STUFFY AND RUNNY NOSES

A stuffy or runny nose can result from a cold or allergy (see next page). A lot of mucus in the nose may cause ear infections in children or sinus problems in adults

To help clear a stuffy nose, do the following:

1. In little children, carefully suck the mucus out of the nose with a suction bulb or syringe **without a needle,** like this





2 Older children and adults can put a little salt water into their hand and sniff it to the nose This helps to loosen the mucus Plain water can also be used

3 Breathing hot water vapor as described on page 205, helps clear a stuffy nose

4 Wipe a runny or stuffy nose, but **do not blow it.** Blowing the nose may lead to earache and sinus infections

5 Persons who often get earaches or sinus trouble after a cold can help prevent these problems by using *decongestant* nose drops like phenylephrine (p 418) After sniffing a little salt water, put the drops in the nose like this

With the head sideways, put 2 or 3 drops in the lower nostril Wait a couple of minutes and then do the other side.

CAUTION Use decongestant drops no more than 3 times a day, for no more than 3 days Do not let the dropper touch the nostril

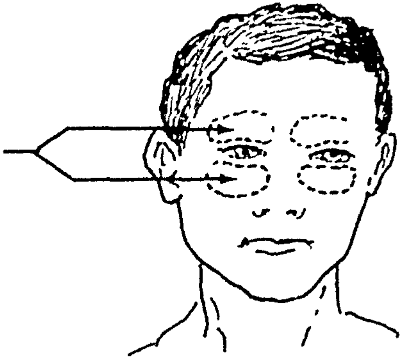


A decongestant syrup (with phenylephrine) may also help.

Prevent ear and sinus infections—wipe but do not blow your nose.

SINUS TROUBLE (SINUSITIS)

Sinusitis is an acute or chronic (long-term) inflammation of the sinuses or hollows in the bone that open into the nose



Signs·

- Pain in the face above and below the eyes, here (It hurts more when you tap lightly just over the bones, or when the person bends over)
- Thick mucus or pus in the nose, perhaps with a bad smell The nose is often stuffy
- Fever (sometimes)

Treatment·

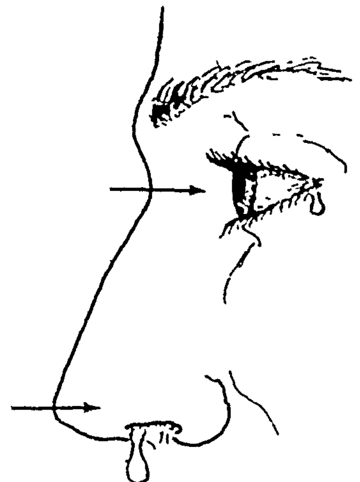
- Sniff a little salt water into the nose (see p 201)
- Put hot compresses on the face
- **Inhaling steam helps relieve congestion**
- Use decongestant nose drops such as phenylephrine (***Neo-synephrine,*** p 418)
- Use an antibiotic such as tetracycline (p 400), ampicillin (p 399), or penicillin (p.397)
- If the person does not get better, seek medical help.

Prevention·

When you get a cold and a stuffy nose, try to keep your nose clear Follow the instructions on page 201

ALLERGIC RHINITIS (HAY FEVER)

Runny nose and itchy eyes can be caused by an allergic reaction to something in the air that a person has breathed in (see the next page) It is often worse at certain times of year



Treatment

Use an antihistamine such as chlorpheniramine (p 420) Dimenhydrinate (*Dramamine,* p 420) , usually sold for motion sickness, also works

Prevention·

Find out what things cause this reaction (for example dust, chicken feathers, ***pollen,*** mold) and try to avoid them

ALLERGIC REACTIONS

An allergy is a disturbance or reaction that affects only certain persons when things they are sensitive or allergic to are

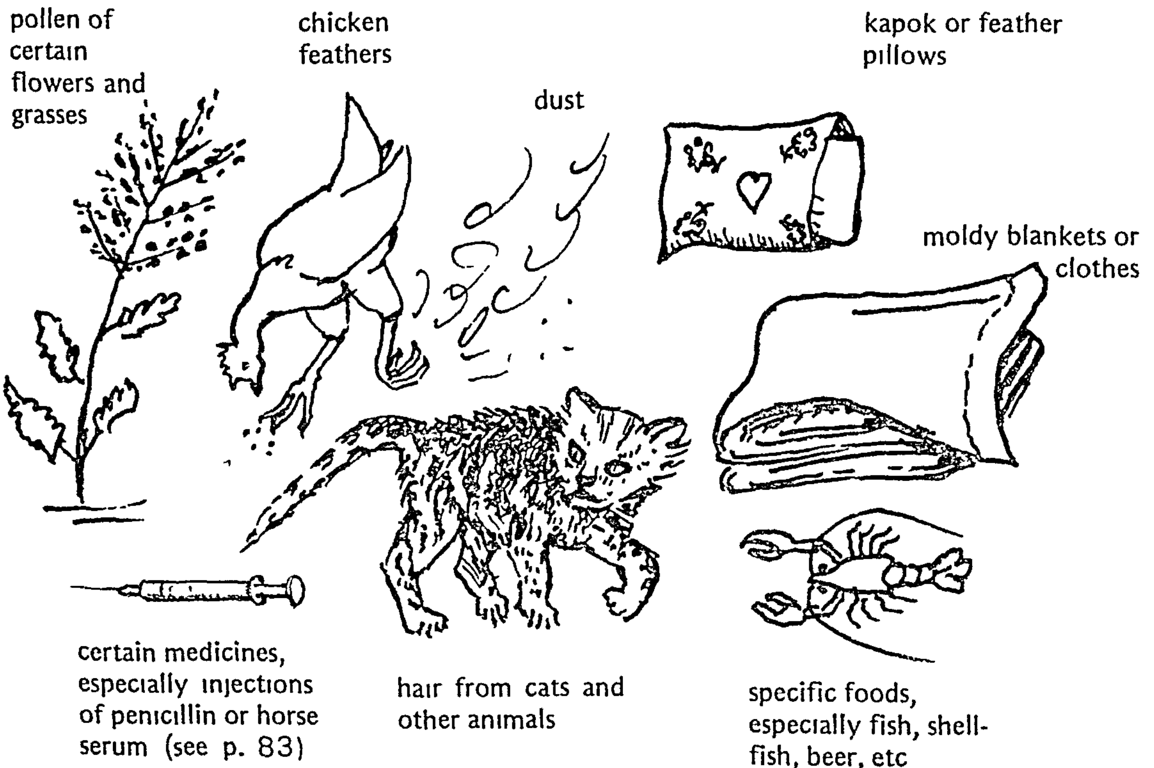
- breathed in
- eaten
- injected
- or touch the skin

Allergic reactions, which can be mild or very serious, include

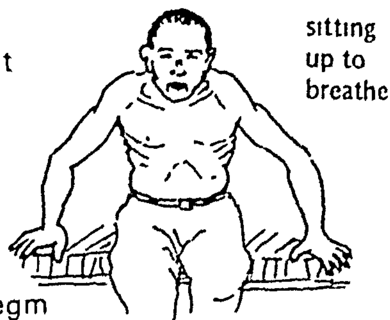
- itching rashes, lumpy patches or *hives* (p 244)
- runny nose and itching or burning eyes (hay fever, p 202)
- irritation in the throat, difficulty breathing, or asthma (see next page)
- allergic shock (p 83)
- diarrhea (in children allergic to milk—a rare cause of diarrhea, p 184)

An allergy is not an infection and cannot be passed from one person to another. However, children of allergic parents also tend to have allergies

Often allergic persons suffer more in certain seasons—or whenever they come in contact with the substances that bother them Common causes of allergic reactions are



ASTHMA



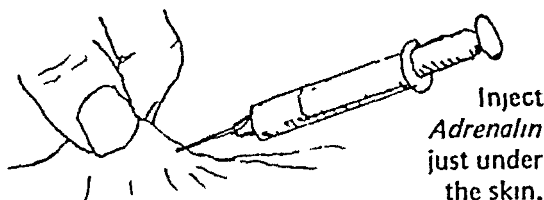
A person with asthma has fits or attacks of difficult breathing Listen for a hissing or wheezing sound, especially when breathing out When he breathes in, the skin behind his collar bones and between his ribs may suck in as he tries to get air If the person cannot get enough air, his nails and lips may turn blue, and his neck veins may swell Usually there is no fever There may be cough with a little white phlegm

Asthma often begins in childhood and may be a problem for life. It is **not** *contagious,* but is more common in children with relatives who have asthma It is generally worse during certain months of the year or at night Persons who have had asthma for years may develop emphysema (see p 207)

An asthma attack may be caused by eating or breathing things to which the person is allergic (see p 203) In children asthma often starts with a common cold In some persons nervousness or worry also plays a part in bringing on an asthma attack

Treatment:

- If asthma gets worse inside the house, the person should go outside to a place where the air is cleanest Remain calm and be gentle with the person Reassure him
- Give a lot of liquids This loosens mucus and makes breathing easier. Breathing water vapor may also help (see p. 205)
- For mild attacks give ephedrine or theophylline (see p 419)
- If the asthma attack is especially bad, inject *Adrenalin.* Adults ½ ampule, children ¼ ampule You can repeat the dose every half hour, as needed up to 3 times For precautions, see p 419



- If the person has a fever, or if the attack lasts more than 3 days, or if the phelgm becomes thick and yellowish, give tetracycline capsules (p 400) or erythromycin (p 400)
- In rare cases, roundworms cause asthma Piperazine (p 411) may be given to asthmatic children if you think they have roundworms
- **If the person does not get better, seek medical help.**
- Do not give any drugs that sedate the patient

Prevention:

A person with asthma should avoid eating or breathing things that bring on attacks The house or work place should be kept clean. Do not let chickens or other animals inside Put bedding out to air in the sunshine Sometimes it helps to sleep outside in the open air Persons with asthma may improve when they move to a different area where the air does not contain substance that cause allergy

If you have asthma do not smoke—smoking damages your lungs even more.

COUGH

Coughing is not a sickness in itself, but is a sign of many different sicknesses that affect the throat, lungs, or *bronchi* (the network of air tubes going into the lungs) Below are some of the problems that cause different kinds of coughs.

DRY COUGH WITH LITTLE OR NO PHLEGM	COUGH WITH PHLEGM ·	COUGH WITH A WHEEZE OR WHOOP AND TROUBLE BREATHING
cold or flu (p.200) worms—when passing through the lungs (p 193) measles (p.358) smoker's cough (smoking, p 178)	bronchitis (p 207) bronchiectasis (p 208) abscess of the lung (p 208) pneumonia (p.208)	asthma (p.204) whooping cough (p 360) diphtheria (p.361) heart trouble (p 371) emphysema (p 207)

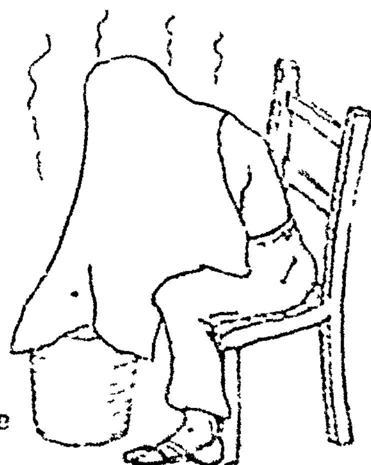
CHRONIC OR PERSISTENT COUGH	COUGHING UP BLOOD:
tuberculosis (p 219) smoker's or miner's cough (p.178) chronic bronchitis (p 207)	tuberculosis (p 219) pneumonia (yellow, green, or blood-streaked phlegm, p.208) severe worm infection (p.193) cancer of the lung (p 178) heart trouble bronchiectasis

Coughing is the body's way of cleaning the breathing system and getting rid of phlegm (mucus with pus) and germs in the throat or lungs So when a cough produces phlegm, **do not take medicine to stop the cough, but rather do something to help loosen and bring up the phlegm.**

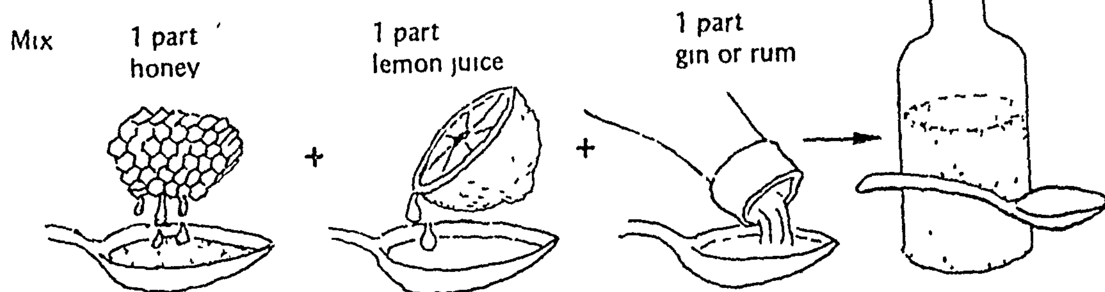
Treatment for cough:

1. **To loosen mucus** and ease any kind of cough, **drink lots of water.** This works better than any medicine (However, potassium iodide may help See page 418)

Also **breathe hot water vapors.** Sit on a chair with a bucket of very hot water at your feet. Place a sheet over your head and cover the bucket to catch the vapors as they rise Breathe the vapors deeply for 15 minutes Repeat several times a day. Some people like to add mint or eucalyptus leaves or *Vaporub*, or tincture benzoin but hot water works just as well alone



2 **For all kinds of cough,** especially a dry cough, the following cough syrup can be given



For home remedies see p 13

Take a teaspoonful every 2 or 3 hours For little children and people who have difficulty in breathing, leave out the alcohol

3 **For a severe dry cough that does not let you sleep,** you can take a syrup with codeine (p 418) If there is a lot of phlegm or wheezing, do not use codeine

4 **For a cough with wheezing** (difficult, noisy breathing), see Asthma (p 204) Chronic Bronchitis (p 207), and Heart Trouble (p 371)

5 **Try to find out what sickness is causing the cough and treat that.** If the cough lasts a long time, if there is blood, pus, or smelly phlegm in it, or if the person is losing weight or has continual difficulty breathing, see a health worker

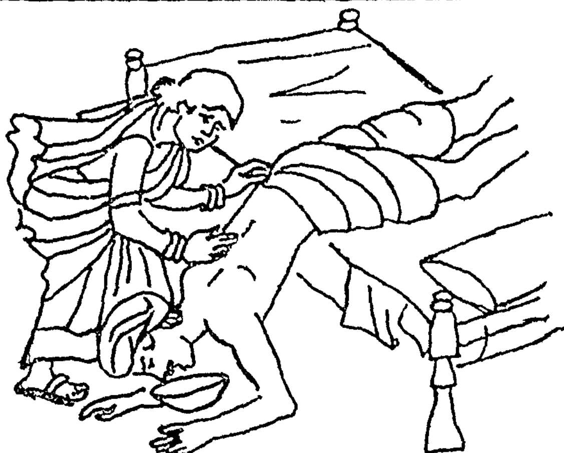
6 **If you have any kind of a cough, do not smoke.** Smoking damages the lungs

To prevent a cough, do not smoke.
To cure a cough, treat the illness that causes it—and do not smoke.
To calm a cough, and loosen phlegm, drink lots of water—and do not smoke.

HOW TO DRAIN MUCUS FROM THE LUNGS (POSTURAL DRAINAGE).

When a person who has a bad cough is very old or weak and cannot get rid of the sticky mucus or phlegm in his chest, it will help if he drinks a lot of water Also do the following

- First, have him breathe hot water vapors to loosen the mucus
- Then have him lie partly on the bed, with his head and chest hanging over the edge Pound him lightly on the back This will help to bring out the mucus



BRONCHITIS

Bronchitis is an infection of the bronchi or tubes that carry air to the lungs It causes a noisy cough, often with mucus or phlegm Bronchitis is usually caused by a virus, so antibiotics do not generally help **Use antibiotics only if the bronchitis lasts more than a week** and is not getting better, if the person shows signs of **pneumonia** (see the following page), or if he already has a **chronic lung problem.**

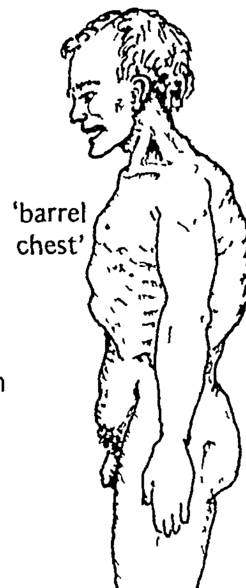
CHRONIC BRONCHITIS:

Signs:

- A cough, with mucus that lasts for at least 3 months in a year and keeps coming year after year Sometimes the cough gets worse, and there may be fever A person who has this kind of cough, but does not have another long term illness such as tuberculosis or asthma, probably has chronic bronchitis

- It occurs most frequently in older persons who have been heavy smokers

- It can lead to *emphysema,* a very serious and incurable condition of the lungs A person with emphysema has a hard time breathing, especially with exercise, and his chest becomes big 'like a barrel'



Emphysema can result from chronic asthma or chronic bronchitis

Treatment:

- Stop smoking

- Take an anti-asthma medicine with ephedrine or theophylline (p 418–419)

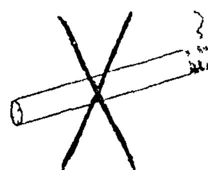
- Persons with chronic bronchitis should use ampicillin or tetracycline every time they have a cold or 'flu' with a fever

- If the person has trouble coughing up sticky phlegm, have him breathe hot water vapors (p 205) and then help him with postural drainage (see p 206)



If you have a chronic cough (or want to prevent one),

do not smoke!

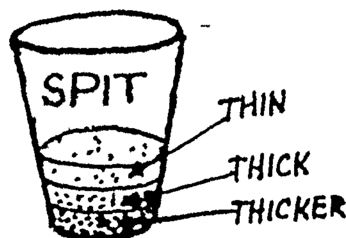


BRONCHIECTASIS

When the elastic tissue of the lung is damaged either by infection, by too much smoking, or by inhaling too much smoke and dust, the person gets bronchiectasis

Signs:

- Cough with a lot of white phlegm, especially in the morning
  To test for bronchiectasis, ask the person to spit the phlegm into a glass Let it stand After sometime the phlegm will separate into 3 layers as shown



- Occurs in heavy smokers and also in people who live in overcrowded places, near factories, etc
- Usually no fever
- Can lead to **emphysema**

Treatment

- Stop smoking
- Postural drainage (p 206), Especially in the morning
- Steam inhalation
- Diet rich in protein (p 128-129)
- If possible, try to change your place of living

ABSCESS OF THE LUNG

This is caused by an obstruction of the **bronchioles** (thin branches of the bronchi inside the lungs, see illustration on p209)The bronchiole gets infected and forms an abscess The pus drains into the lungs and is coughed out as phlegm This is a dangerous condition as the infection can spread to the entire lung

Signs

- Cough with thick, yellow and foul - smelling phlegm
- high fever which decreases once a day with sweating
- rapid pulse
- patient very ill

Treatment:

- Postural drainage (see p 206)
- penicillin injection (p 398) if penicillin is not available, use ampicillin or tetracycline (p 399 and 400)
- aspirin or acetaminophen for fever.
- steam inhalation
- seek medical help

PNEUMONIA

Pneumonia is an acute infection of the lungs It often occurs after other respiratory illnesses such as measles, whooping cough, flu, bronchitis, asthma—or any very serious illness.and is especially dangerous in children.

Signs:

- Rapid, shallow breathing, sometimes with wheezing. The nostrils may spread with each breath.

- Cough (often with yellow, greenish, or slightly bloody mucus).

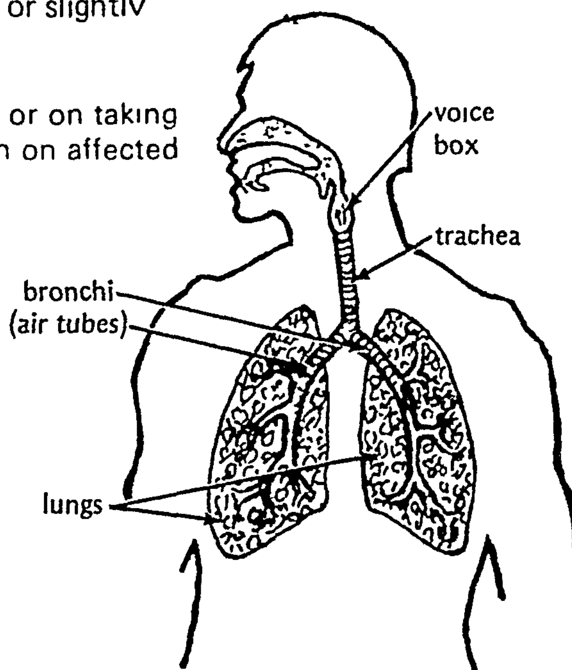
- Chest pain increases with coughing or on taking deep breaths, improves by lying down on affected side

- High fever

- The person looks very ill

- A very sick child who takes more than 50 **shallow** breaths a minute probably has pneumonia

(If breathing is rapid and **deep**, check for dehydration, p. 181)



Treatment:

- For pneumonia, treatment with antibiotics can make the difference between life and death Give penicillin (p 397) or sulfonamide tablets (p.402). In serious cases, inject procaine penicillin (p 399), or ampicillin (p 399), Give small children ¼ to ½ the adult dose

- Give aspirin or acetaminophen (p.414) to lower the temperature and lessen the pain

- Give plenty of liquids. If the person will not eat, give him liquid foods or Rehydration Drink (see p 182)

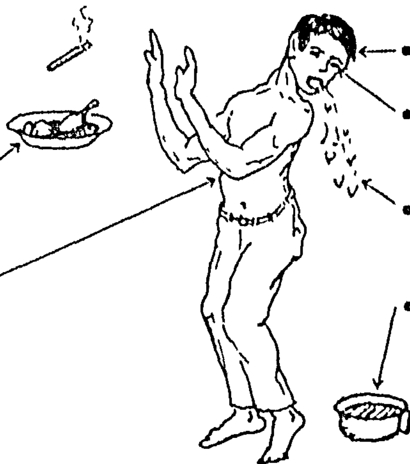
- Ease the cough and loosen the mucus by giving the person plenty of water and having him breathe hot water vapors (see p 205) Postural drainage may also help (see p 206)

- If the person is wheezing, an anti-asthma medicine with theophylline or ephedrine may help.

INFECTIVE HEPATITIS

Hepatitis is a virus infection that harms the liver Hepatitis often causes little or no rise in temperature The disease is usually mild in small children and more serious in older persons It often comes as an epidemic

Signs



- Does not want to eat or smoke Often goes days without eating anything.
- Sometimes there is pain on the right side near the liver
- May have a fever
- After a few days, the eyes turn yellow.
- Sight or smell of food may cause vomiting.
- The urine turns dark yellow or brown, and the stools become whitish

In general, the person is very sick for 2 weeks and remains very weak for 1 to 3 months after

Treatment

- Antibiotics do not work against hepatitis In fact some medicines will cause added damage to the sick liver **Do not use medicines.**
- The sick person should rest and drink lots of liquids If he refuses most food, give him orange juice, papaya, and other fruit, sugarcane juice, mashed beans, dal, vegetables, chicken or other proteins (p 128) It may help to take vitamins
- To control vomiting, see p 192
- When the sick person can eat, give a balance of energy foods and protein Beans, meat, chicken, and boiled eggs are good Avoid lard and fatty foods **Do not drink any alcohol** for atleast 6 months afterward

Prevention

- The hepatitis virus passes from the stool of one person to the mouth of another by way of contaminated water or food (see p 160) To prevent others from getting sick, it is very important to bury or burn the sick person's stools and to keep him very clean The person providing care should wash his hands well after each time he goes near the sick person
- Small children often have hepatitis without any signs of sickness, but they can spread the disease to others It is very important that everyone in the house follow all the guidelines of cleanliness with great care (see pages 167 to 171)

WARNING. Hepatitis can also be transmitted by giving injections with needles that are not sterile (not well boiled) **Always boil needles and syringes before each use.**

ARTHRITIS (PAINFUL, INFLAMED JOINTS)

Most chronic joint pain, or arthritis, in older people cannot be cured completely However, the following offer some relief

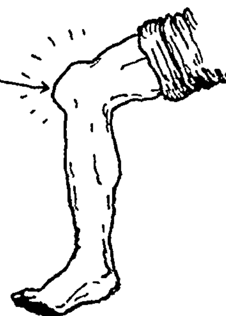
- **Rest.** If possible, avoid hard work and heavy exercise that bother the painful joints If the arthritis causes some fever, it helps to take naps during the day

- **Place hot compresses** (cloths soaked in hot water) on the painful joints (see p 235 to p 236)

- **Aspirin** helps relieve pain, the dose for arthritis is higher than that for relieving other pain Take 3 tablets, 4 to 6 times a day If your ears begin to ring, take less To avoid stomach problems caused by aspirin, take it with food, milk, bicarbonate of soda, or plenty of water

- It is important to do simple **exercises** to help maintain or increase the range of motion in the painful joints

If only one joint is swollen and feels hot, it probably is infected —especially if there is fever Use an antibiotic such as penicillin (see p 397) and if possible see a health worker

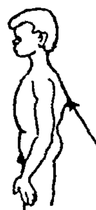


Painful joints in young people and children may be a sign of other serious illness, such as rheumatic fever (p 356) or tuberculosis (p. 219)

BACK PAIN

Back pain has many causes Here are some

Chronic upper back pain with cough and weight loss may be TB of the lungs (p. 219)



Mid back pain in a child may be TB of the spine, especially if the backbone has a hump or lump.

Low back pain that is worse the day after heavy lifting or straining may be a sprain

Severe low back pain that first comes suddenly when lifting or twisting may be a *slipped disc,*

especially if one leg or foot becomes painful or numb and weak This can result from a pinched nerve

Standing or sitting wrong, with the shoulders drooped, is a common cause of backache



In older people, chronic back pain is often arthritis

Pain in the upper right back may be from a gallbladder problem (p 375)

Acute (or chronic) pain here may be a urinary problem (p 278)

Low backache is normal for some women during menstrual periods or pregnancy (p 294)

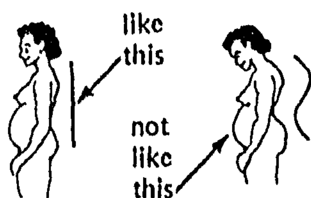
Very low back pain sometimes comes from problems in the uterus, ovaries, or rectum

Treatment and prevention of back pain:

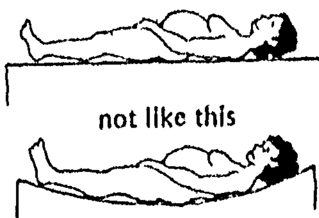
- If back pain has a cause like TB, a urinary infection, or gallbladder disease, treat the cause Seek medical help if you suspect a serious disease

• Simple backache, including that of pregnancy, can often be prevented or made better by:

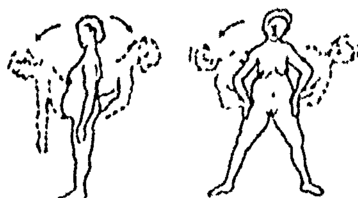
always standing straight



sleeping on a firm flat surface like this or on the floor



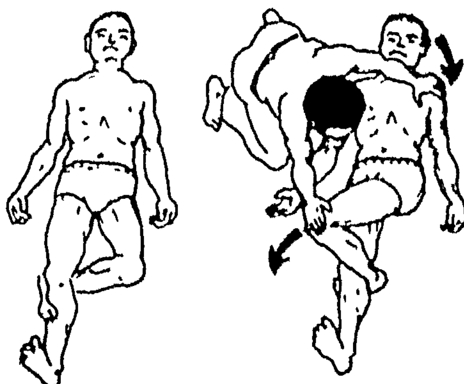
back-bending exercises



• Aspirin and hot soaks (p 235) help calm most kinds of back pain.

• For low back pain that comes from lifting or straining, quick relief can sometimes be brought like this:

Have the person lie with one foot tucked under his knee.



Then, holding this shoulder down,

forcefully push this knee over so as to twist the back.

Do this first on one side and then the other.

CAUTION: Do not try this if the back pain is from a fall or injury.

• If back pain from lifing or twisting is sudden and severe with knife-like pain when you bend over, if the pain goes into the leg(s), or if a foot becomes numb or weak, this is serious. A nerve coming from the back may be 'pinched' by a slipped disc (pad between the bones of the back). It is best to rest flat on your back for a few days. It may help to put something firm under the knees and mid back.

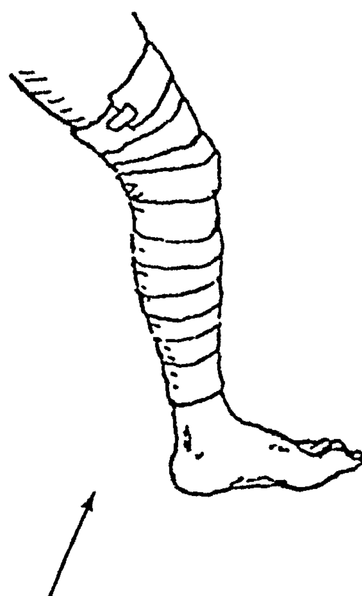


• Take aspirin and use hot soaks. If pain does not begin to get better in a few days, seek medical advice.

VARICOSE VEINS

Varicose veins are veins that are swollen, twisted, and often painful. They are often

seen on the legs of older people and of women who are pregnant or who have had many children

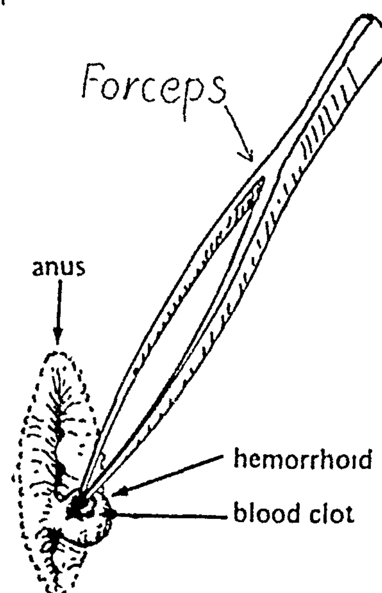


Treatment:

There is no medicine for varicose veins But the following will help·

- Do not spend much time standing or sitting with your feet down If you have no choice but to sit or stand for long periods, try to lie down with your feet up for a few moments every half hour. Also, sleep with your feet up (on pillows) or lift the foot end of the bed on bricks
- Use elastic bandages or crape bandages to help hold in the veins Be sure to take them off at night.
- Taking care of your veins in this way will help prevent chronic sores or *varicose ulcers* on the ankles (p.254).

PILES (HEMORRHOIDS)

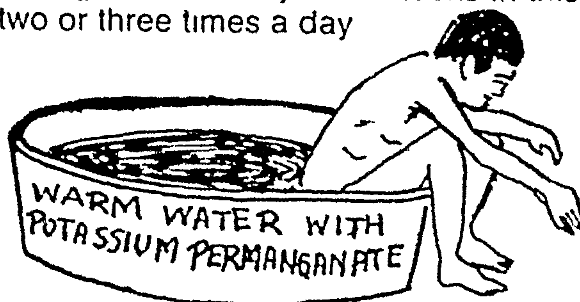


Piles or hemorrhoids are varicose veins of the anus or rectum, which feel like little lumps or balls They may be painful, but are not dangerous They frequently appear during pregnancy and may go away afterwards

If a hemorrhoid begins to bleed, the person will have signs of anemia (see p 146)

Treatment:

* **Sitz bath :** To get relief from pain, fill a tub with warm water Add some potassium permanganate Soak your buttocks in this hot water for half an hour. Do this two or three times a day



- Certain bitter plant juices (witch hazel, cactus, etc) dabbed on the hemorrhoids help shrink them So do hemorrhoid **suppositories.** (see p.424)
- Apply 'Preparation H in and around the anus This is freely available in pharmacies
- Piles may be caused in part due to constipation It helps to eat plenty of fruit or food with a lot of fibre, like tapioca or green plantains

When to seek medical help:

- very large hemorrhoids
- severe pain
- non-stop bleeding of hemorrhoids

ANAL FISSURE

sometimes when a person passes hard stools the anal opening may tear. This produces terrible pain with a burning feeling and lasts for 2 to 3 hours,after a bowel movement The anus produces a watery discharge at the site of the tear and this causes itching The tear can also get infected

Treatment:

- Avoid getting constipated Eat a lot of fibre foods like vegetables and fruits
- Make a sitz bath (see piles) and sit in it
- After passing stools, take a little lignocaine jelly (see green pages)on your finger and apply it in and around the anus Wash hands well,before applying
- If the condition does not improve, a small operation will help cure it.

SWELLING OF THE FEET AND OTHER PARTS OF THE BODY

Swelling of the feet may be caused by a number of different problems, some minor and others serious But if the face or other parts of the body are also swollen, this is usually a sign of serious illness.

Women's feet sometimes swell during the last three months of pregnancy This is usually not serious It is caused by the weight of the child that presses on the veins coming from the legs in a way that limits the flow of blood However, if the woman's hands and face also swell, she feels dizzy, has a headache, has problems seeing, or does not pass much urine, she may be suffering from poisoning or *toxemia* of pregnancy (see p 295) Seek medical help fast

Old people who spend a lot of time sitting or standing in one place often get swollen feet because of poor circulation. However swollen feet in older persons may also be due to heart trouble (p. 371) or, less commonly kidney disease (p 278) and urinary tract infection following streptococcal throat (p 357)

Swelling of the feet in small children may result from anemia (p.147),or malnutrition (p 125) In severe cases the face and hands may also become swollen (see Kwashiorkor, p.133)

If there is any small infected cut or wound on the foot, the foot may swell due to cellulitis There is fever and pain

Treatment:

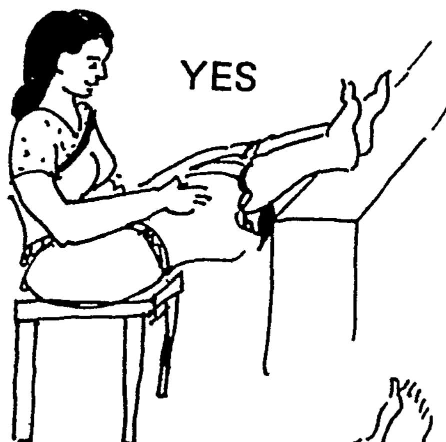
To reduce swelling, treat the sickness that causes it Use little or no salt in food Herbal teas that make people urinate a lot usually help (see home remedies, chapter 1) Also do the following

WHEN YOUR FEET ARE SWOLLEN.

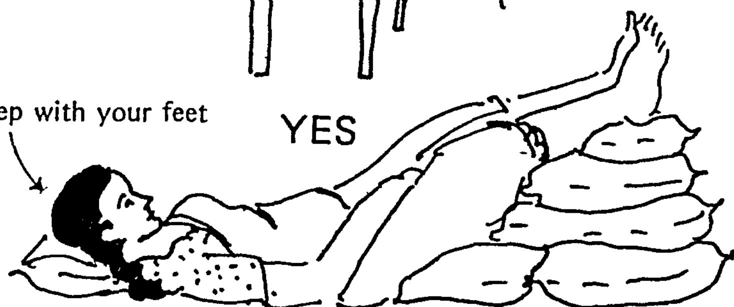
Do not spend time sitting with your feet down. This makes them swell more



When you sit, put your feet up high. This way the swelling becomes less Put your feet up several times a day.



Also sleep with your feet raised

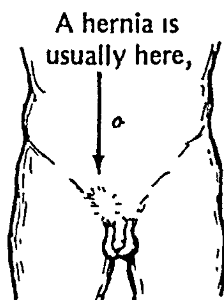


In case of cellulitis, Penicillin injections are necesarry for dosage, see p 398

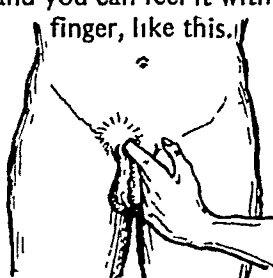
HERNIA (RUPTURE)

A hernia is an opening or tear in the muscles covering the belly This permits a loop of gut to push through and form a lump under the skin. Hernias usually come from lifting something heavy, or straining (as during childbirth) Some babies are born with a hernia (see p 364) In men, hernias are common in the groin Swollen lymph nodes (p.101)may also cause lumps in the groin However

A hernia is usually here,

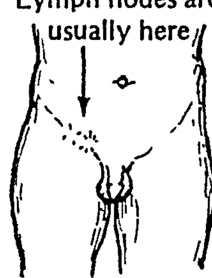


and you can feel it with a finger, like this.



It gets bigger when you cough (or lift).

Lymph nodes are usually here



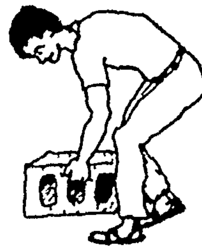
and do not get bigger when you cough.

How to prevent a hernia:

Lift heavy things like this



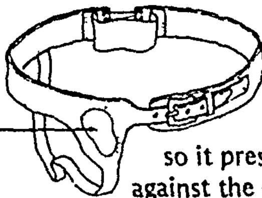
not like this.



How to live with a hernia:

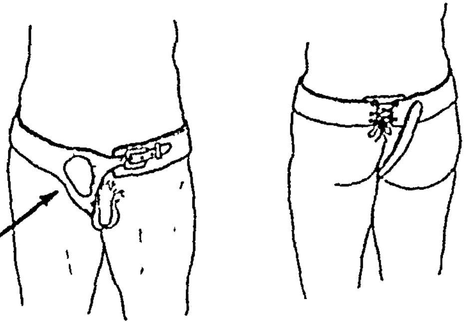
- Avoid lifting heavy objects
- Make a truss to hold the hernia in

PLAN FOR A SIMPLE TRUSS:



Put a little cushion here

so it presses against the groin.



CAUTION: If a hernia suddenly becomes large or painful, try to make it go back in by lying with the feet higher than the head and pressing gently on the bulge If it will not go back, seek medical help

If the hernia becomes very painful and causes vomiting, and the person cannot have a bowel movement, this can be very dangerous. Surgery may be necessary. Seek medical help fast. In the meantime, treat as for Appendicitis (p.107)

FITS (CONVULSIONS)

We say a person has a fit when he suddenly loses consciousness and makes strange, jerking movements (convulsions) Fits come from a problem in the brain In small children common causes of fits are **high fever** and **severe dehydration.** In very ill persons, the cause may be **meningitis, cerebral malaria,** or **poisoning.** A person who often has fits may have epilepsy.

- Try to figure out the cause of a fit and treat it, if possible.
- If the child has a high fever, lower it at once with cool water (see p 88)
- If the child is dehydrated, give an enema of Rehydration Drink **slowly.** Send for medical help Give nothing by mouth during a fit or if he is unconscious
- If there are signs of meningitis (p 225), begin treatment at once and seek medical help

EPILEPSY

Epilepsy causes fits in people who otherwise seem fairly healthy Fits may come hours, days, weeks, or months apart In some persons they cause loss of

consciousness and violent movements The eyes often roll back. In mild types of epilepsy the person may suddenly 'blank out' a moment, make strange movements, or behave oddly. Or it may come from brain damage at birth, high fever in infancy, or tapeworm cysts in the brain (p. 196)

Epilepsy is not an infection and cannot be 'caught'. It is often a life-long problem. However, infants sometimes get over it

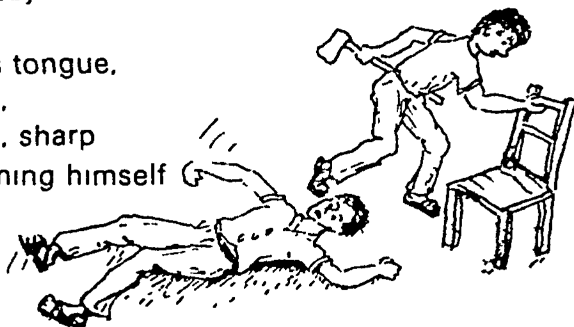
Medicines to prevent epileptic fits:

Note: These do not 'cure' epilepsy, they help prevent fits Often the medicine must be taken for life

- Phenobarbital often controls epilepsy It costs little (see p. 422)
- Diphenylhydantoin may work when phenobarbital does not. Sometimes both medicines are needed together Use the lowest possible dose that prevents fits (see p 422)

When a person is having a fit:

- place a bit of wood, a key, or a similar object covered with a clean cloth between his teeth, so that he does not bite his tongue,
- do not try to restrain him during a fit,
- protect him from any danger, like fire, sharp stones, etc , to prevent him from harming himself



- clear the people around him so that he gets enough fresh air to breathe;
- if he vomits or spits, turn his head to one side so that he does not choke; if needed, clear his mouth of the vomit;
- after he recovers from the fit, give him hot tea with plenty of sugar in it
- After the fit he may be dull and sleepy , let him sleep or rest before he starts his normal work,
- if fits last a long time, inject diazepam (Valium) or phenobarbital or paraldehyde (for dosage see p 423) If the fit still does not stop after 15 minutes, give a second dose.

CHAPTER

14 SERIOUS ILLNESSES THAT NEED SPECIAL MEDICAL ATTENTION

The diseases covered in this chapter are often difficult or impossible to cure without medical help. Many need special medicines that are difficult to get in rural areas. Home remedies will not cure them. If a person has one of these illnesses, *THE SOONER HE GETS MEDICAL HELP, THE BETTER HIS CHANCE OF GETTING WELL.*

CAUTION: Many of the illnesses covered in other chapters may also be serious and require medical assistance See the **Signs of dangerous illness,** p 52

TUBERCULOSIS (TB, CONSUMPTION)

Tuberculosis of the lungs is a *chronic* (long-lasting), *contagious* (easily spread) disease that anyone can get But it most often strikes persons who are weak, are poorly nourished, or live with someone who has the disease



Tuberculosis is curable Yet lakhs die needlessly from this disease every year Both for prevention and cure, it is very important to **treat tuberculosis early.** Therefore, you should **know the signs of tuberculosis and be on the lookout for them.**

Most frequent signs of TB:
- Chronic weight loss and increasing weakness
- Chronic cough, especially just after waking up
- Mild fever in the afternoon and sweating at night
- There may be pain in the chest or upper back

In serious or advanced cases:

- Coughing up blood (usually a little, but in some cases a lot).
- Pale, waxy skin
- Voice grows hoarse (very serious)

Signs of TB in children·

Children with TB often do not cough or have a mild fever in the afternoon. The most important sign in children is **loss of weight even if they are**

eating well. They may also have difficulty in breathing **If a child who eats well does not gain weight for two successive (one after the other) months, always suspect TB.** In a small child, TB is very dangerous and can quickly kill the child

Tuberculosis is usually only in the lungs But it can affect any part of the body In young children it may cause meningitis (see p 225) For skin problems from TB, see p. 253

If you think you might have tuberculosis·

Seek medical help At the first sign of tuberculosis, go to a health center where the workers can give you a skin test, take an X-ray, and examine the stuff you cough up (*phlegm* or *sputum*) to see if you have TB or not You can get medicines for TB free from the Primary Health Centre ı You will probably be given 2 or 3 of the following

- Streptomycin injections (p 403)
- Isoniazid (I N H.) pills (p 404)
- P A S (aminosalicylic acid) pills (p 404)
- Thiacetazone (p 404)

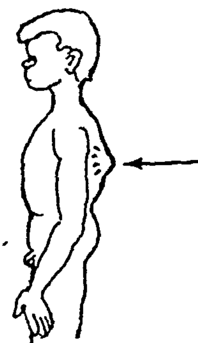
It is very important to take the medicines as directed At least 2 must be taken at the same time (For the risks and precautions in the use of these medicines, see p 402 to 404)

TB germs do not die easily They will be killed only with continued treatment for a long time

Continue taking the medicines until the health worker tells you that you are cured Do not stop taking the medicines just because you feel better **To cure tuberculosis completely usually takes from 1 to 2 years.**

Eat as well as possible plenty of foods rich in proteins and vitamins, as well as energy foods (p 128 to 130)

Rest is important If possible, stop doing heavy and tiring work and take it easy until you begin to get better From then on try not to work so hard that you become tired or breathe with difficulty Try to get enough rest and sleep



TB of the backbone

Tuberculosis in any other part of the body is treated the same as TB of the lungs For children with severe tuberculosis of the backbone, surgery may be needed to prevent paralysis

Tuberculosis is very contagious. Persons who live in the same house with someone who has TB, especially children, run a great risk of catching the disease

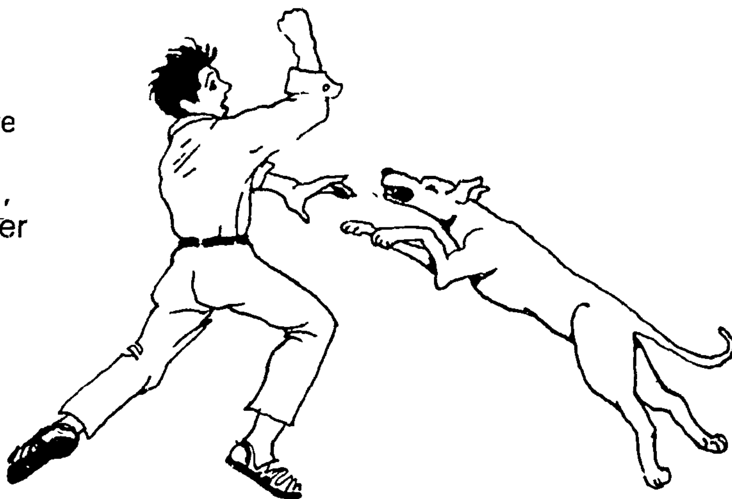
If someone in the house has TB: (see pages, 163-165)

- If possible, see that the whole family is tested for TB
- Have the children vaccinated against TB
- Everyone, especially the children, should eat plenty of nutritious food (see p 128)
- A person with TB should be careful to cover his mouth when coughing and should never spit on the floor He should spit into a covered container and burn the phlegm at night
- Take a child to a health center at the first suspicion of TB or if he gets a cough that lasts more than 2 weeks or if he starts losing weight suddenly, or if he has difficulty in breathing
- Treat TB at once A person who no longer has TB will not spread it
- The person with TB who is taking regular treatment need not eat or sleep separately from others in the family

Early and full treatment is a key part of prevention.

RABIES

Rabies comes from the bite of a rabid or 'mad' animal, usually a rabid dog, cat, fox, wolf, or jakal Bats and other animals may also spread rabies



Signs of rabies:

In the animal:

- Acts strangely—sometimes sad, restless, or irritable
- Foaming at the mouth, cannot eat or drink
- Sometimes the animal goes wild (mad) and may bite anyone or anything nearby The animal may also become sleepy
- The animal dies within 10 days

Signs in people:

- Pain and tingling in the area of the bite
- Pain and difficulty swallowing A lot of thick, sticky saliva.
- Fits of anger between periods of calm
- As death nears, fits (convulsions) and paralysis

If you have any reason to believe an animal that has bitten someone has rabies:

* Tie or cage the animal for 10 days If the animal has rabies, it will show signs of rabies or die within 10 days
* Clean the bite well with soap, water and hydrogen peroxide. If soap and hydrogen peroxide is not available, clean the bite with water. **This is a MUST.** Do not close the wound, leave it open
* After cleaning the bite put a few drops of concentrated carbolic acid on the bite After one minute, apply spirit to the bite If carbolic acid and spirit is not available, tincture of iodine can be used
* If the person has not been immunized against tetanus, tetanus antitoxin should be injected
* To prevent infection of the bite, an antibiotic like Penicillin should be given
* If the animal dies before 10 days (or if it was killed or cannot be caught) take the bitten person at once to a health centre where he can be given a series of anti-rabies injections

The first symptoms of rabies appear from 10 days up to 2 years after the bite (usually within 3 to 7 weeks) Treatment must begin before the first signs of the sickness appear Once the sickness begins, no treatment known to medical science can save the person's life

Prevention

- Kill and bury (or cage for 10 days) any animal, suspected of having rabies
- If possible, kill all stray dogs
- Cooperate with programs to vaccinate pet dogs
- Keep children far away from any animal that seems sick or acts strangely

Take great care in handling any animal that seems sick or acts strangely. Even if it does not bite anyone, its saliva can cause rabies if it gets into a cut or scratch.

TETANUS (LOCKJAW)

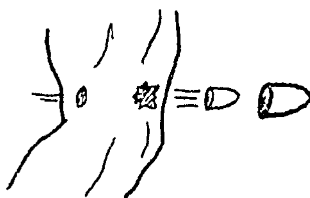
Tetanus results when a germ that lives in the feces of animals or people enters the body through a wound Deep or dirty wounds are especially dangerous

Wounds very likely to cause tetanus:

animal bites, especially those of dogs and pigs



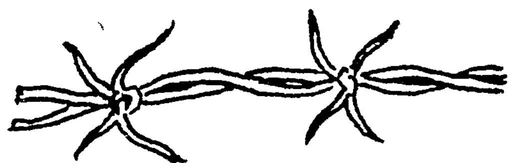
gunshot and knife wounds



holes made with dirty needles



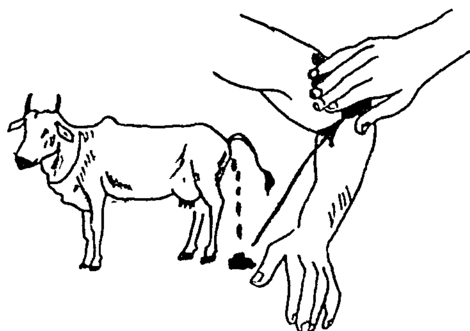
injuries caused
by barbed wire



puncture wounds from
thorns, splinters,
or nails or a piece of glass



putting cowdung on vaccination or wounds

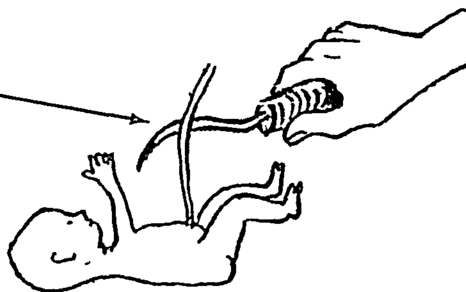


Causes of tetanus in the newborn child:

Tetanus germs enter through the *umbilical cord* of a newborn baby because of lack of cleanliness or failure to take other simple precautions The chance of tetanus is greater

- when the cord has been cut with an instrument that has not been boiled and kept completely clean or
- when the newly cut cord is tightly covered or is not kept dry

WHEN THE CORD IS CUT WITH A SICKLE OR KNIFE THAT IS NOT STERILIZED (COMPLETELY FREE FROM GERMS) THE CHANCE OF TETANUS IS GREATER

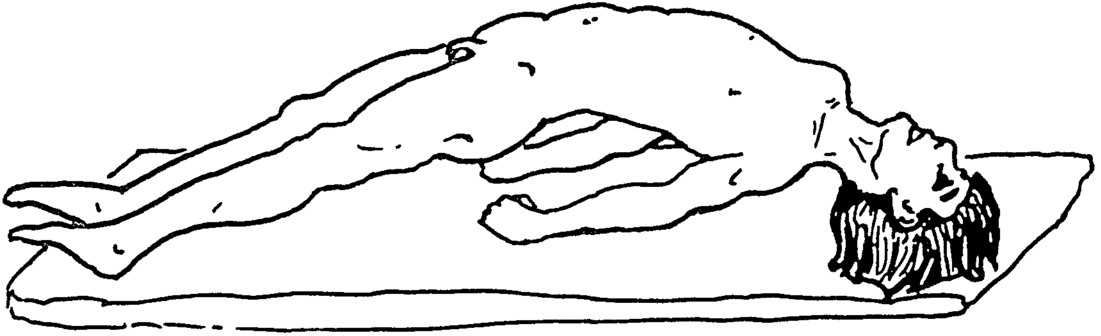


- when the cord is smeared with cowdung or ash

Signs of tetanus.

- An infected wound (sometimes no wound can be found)
- Discomfort and difficulty in swallowing
- The jaw gets stiff (lockjaw), then the muscles of the neck and other parts of the body

Painful *convulsions* (sudden tightening) of the jaw and finally of the whole body Moving or touching the person may trigger sudden *spasms* like this



Sudden noise or bright light may also bring on these spasms

In the newborn, the first signs of tetanus generally appear 3 to 10 days after birth The child begins to cry continuously and is unable to suck Often the umbilical area is dirty or infected After several hours or days, lockjaw and the other signs of tetanus begin

It is very important to start treating tetanus at the first sign If you suspect tetanus (or if a newborn child cries continuously or stops nursing), make this test

TEST OF KNEE REFLEXES

With the leg hanging freely, tap the knee with a knuckle just below the kneecap



If the leg jumps just a little bit, the reaction is normal



If the leg jumps high, this indicates a serious illness like tetanus (or perhaps meningitis or poisoning with certain medicines or rat poison)



This test is especially useful when you suspect tetanus in a newborn baby

What to do when there are signs of tetanus

Tetanus is a deadly disease. **Seek medical help at once.** If there is any delay in getting help, do the following things

- Examine the whole body for infected wounds or sores Often the wound will contain pus Open the wound and wash it with soap and boiled water,

completely remove all dirt, pus, thorns, splinters, etc , flood the wound with hydrogen peroxide if you have any

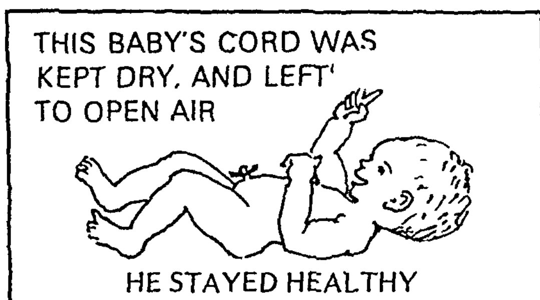
- Inject 10 lakh units of procaine penicillin (p 399) at once and repeat every 12 hours (For newborn babies crystalline penicillin is better) If there is no penicillin, use another antibiotic like tetracycline
- If you can get it, inject 40,000 to 50,000 units of **Tetanus Antitoxin** or 5,000 units of **Human Immune Globulin.** Be sure to follow all the precautions (see p 83) Human Immune Globulin has less risk of severe allergic reaction, but is very expensive and harder to obtain
- As long as the person can swallow, give nutritious liquids in frequent, small sips
- To control convulsions, inject phenobarbital (for the dose, see p 422) or diazepam (*Valium,* p 423),

- Touch and move the person as little as possible Avoid noise and bright light
- If necessary, use a *catheter* (rubber tube) connected to a syringe to suck the mucus from the nose and throat This helps clear the airway

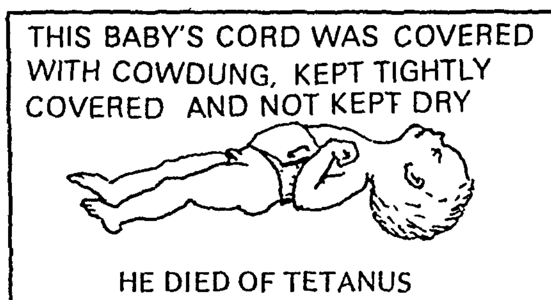
How to prevent tetanus.

Even in the best hospitals, half of the people with tetanus die It is much easier to prevent tetanus than to treat it

- **Vaccination:** This is the surest protection against tetanus Both children and adults should be vaccinated Vaccinate your whole family at the nearest health center (see p 175) **Vaccinating pregnant women against tetanus will prevent tetanus in newborn infants** (see p 296)
- When you have a wound, especially a dirty or deep wound, clean and take care of it in the manner described on page 102
- If the wound is very big, deep, or dirty, seek medical help If you have not been vaccinated against tetanus, take penicillin Also consider getting an injection of tetanus antitoxin
- In newborn babies, cleanliness is very important to prevent tetanus The instrument used to cut the umbilical cord should be sterilized (see p 308) , the cord should be cut short, and the umbilical area kept clean and dry



HE STAYED HEALTHY



HE DIED OF TETANUS

MENINGITIS

This is a very serious infection of the brain, more common in children It may begin as a *complication* of another illness, such as measles, mumps, whooping

cough, or an ear infection Children of mothers who have tuberculosis sometimes get tubercular meningitis in the first few months of life

Signs

- Fever
- Severe headache
- Stiff neck The child looks very ill, and lies with his head and neck bent back, like this
- The back is too stiff to put the head between the knees
- In babies under a year old the fontanel (soft spot on top of the head) bulges upward
- Vomiting is common
- The child is very sleepy or may be irritable
- The child refuses to eat
- Sometimes there are fits (convulsions) or strange movements
- The child often gets worse and worse until he loses consciousness
- Tubercular meningitis develops slowly, over days or weeks Other forms of meningitis come on more quickly, in hours or days

Treatment

Get medical help fast—every minute counts! If possible take the person to a hospital Meanwhile

- Inject ampicillin (see p 399), or crystalline penicillin (see p 398)
- If there is high fever (more than 40°), lower it with wet cloths and aspirin or acetaminophen (see p 414)

Prevention

For prevention of tubercular meningitis, newborn babies of mothers with tuberculosis should be vaccinated with B C G at birth For other suggestions on prevention of TB, see pages 219 to 220

MALARIA

Malaria is an infection of the blood that causes chills and high fever Malaria is spread by mosquitos The mosquito sucks up the malaria parasites in the blood of an infected person and injects them into the next person it bites (see p 166).

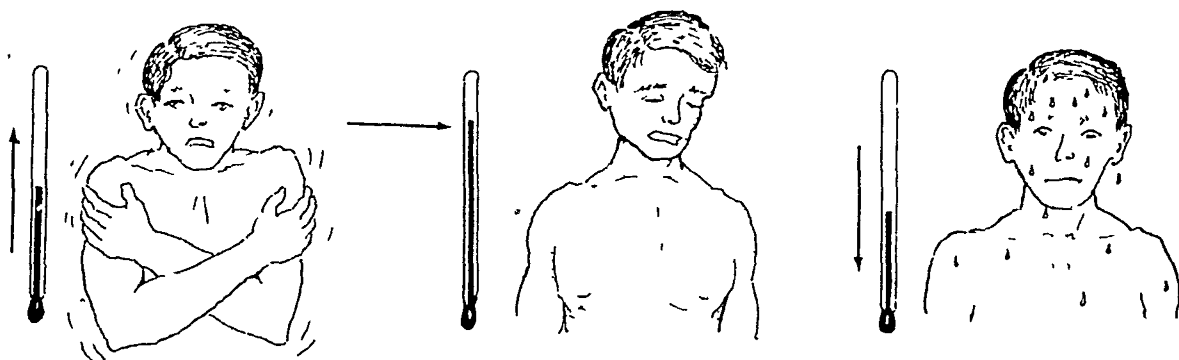
Signs of malaria.

- The typical attack strikes every 2 or 3 days and lasts several hours It has 3 stages

1 It begins with chills—and often headache The person shivers or shakes for 15 minutes to an hour

2 Chills are followed by fever, often 40° or more. The person is weak, flushed (red skin), and at times delirious (not in his right mind) The fever lasts several hours

3 Finally the person begins to sweat, and his temperature goes down. After an attack, the person feels weak, but more or less OK.



- Usually malaria causes fevers every 2 or 3 days (depending on the kind of malaria), but in the beginning it may cause fever daily Also, in small children and persons who have had malaria before, the fever pattern may not be regular or typical For this reason anyone who suffers from unexplained fevers especially in the rainy season, should have his blood tested for malaria
- Chronic malaria often causes a large *spleen* and anemia

Analysis and treatment:

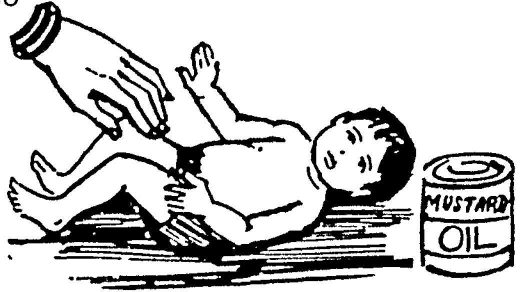
- If you suspect malaria or suffer from repeated fevers, go to a health center for a blood test
- If there is no health center nearby, take chloroquine For dosage, see p 406.
- If you get better with chloroquine, but after several days the fevers start again, you may need a different medicine, like primaquine Get advice from the nearest health center
- If a person who possibly has malaria begins to have fits or other signs of meningitis (p 225) he may have *cerebral* malaria **Seek medical help at once.** This is dangerous

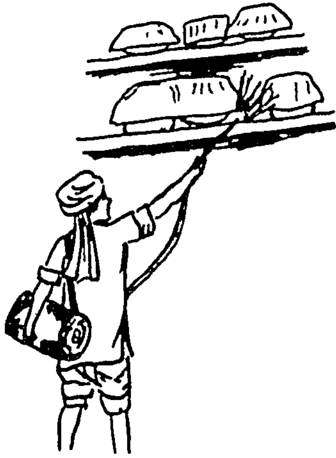
HOW TO AVOID MALARIA:

Malaria is a problem in many of the hot or tropical parts of the world If everyone cooperates, it can be controlled All these control measures should be practiced at once

1 Avoid mosquitos Sleep where there are no mosquitos or underneath a sheet

Cover the baby's cradle with a mosquito netting or a thin cloth



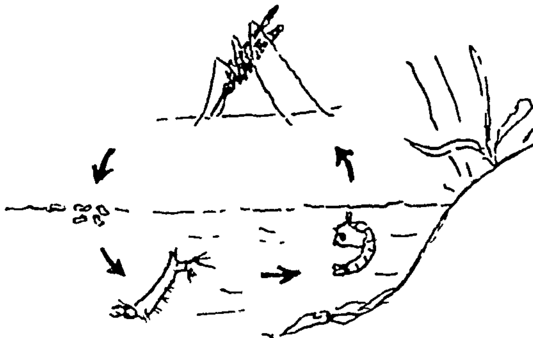


2 Apply mustard oil on your body to prevent mosquito bites

3 Cooperate with the malaria control workers when they come to your village Tell them if anyone in the family has had fevers and let them take blood for testing Also get your house sprayed so that mosquitoes are killed (When spraying keep all food and water covered



4 If you suspect malaria, get treatment quickly After you have been treated, mosquitos that bite you will not pass malaria on to others



5 Destroy mosquitos and their *larvae* (young) Mosquitos breed in standing water Clear the neighborhood of ponds, pits, old cans, or broken pots that collect water Drain or put a little oil on pools or marshes where mosquitos breed Organize children to do this Cover pots containing drinking water

6 Malaria can also be prevented, or its effects greatly reduced, by taking different doses of anti-malaria medicines on a regular schedule For more information about this, see pages 405 to 407

ELEPHANTIASIS



This infection is caused by a kind of worm that affects the lymphatic system of the body It is spread by a certain type of mosquito The mosquito sucks the worms along with the blood of an infected person and injects them into the next person it bites

Signs:

- Fever with chills and rigor
- Raised painful areas on the skin, especially on the arms and legs
- Swelling of the lower limbs
- Enlargement of the lymph nodes, lymphs vessels become swollen twisted and painful
- Permanent enlargement of the affected parts like legs, scrotum, penis

Treatment.

- Tablet ***Hetrazan*** (see p 413 for dosage)
- Aspirin tablets help relieve pain and fever
- Tie elastic bandages on the legs to decrease the swelling This will also help prevent permanent swelling of the legs Be sure to take off the bandage at night

Prevention

Take all the precautions against mosquitoe bite as for malaria (p 228)

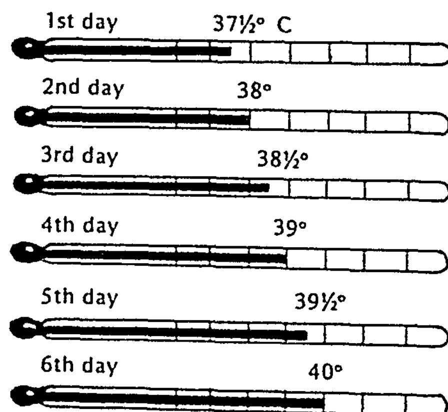
TYPHOID FEVER

Typhoid is an infection of the gut that affects the whole body It is spread from *feces-to-mouth* by contaminated food and water and often comes as an *epidemic* (many people sick at once)

Signs

First week:

- It begins like a cold or flu
- Headache and sore throat
- The fever rises a little more each day until it reaches 40° or more
- Pulse is often relatively slow for the amount of fever present Take the pulse and temperature every half hour **If the pulse gets slower when the fever goes up, the person probably has typhoid** (see p 32)
- Sometimes there is vomiting, diarrhea, or constipation



Second week:

- High fever, pulse relatively slow
- A few pink spots may appear on the body
- Trembling
- Delirium (person does not think clearly or make sense)
- Weakness, weight loss, dehydration

Third week:

- If there are no complications, the fever and other symptoms slowly go away

Treatment:

- Seek medical help
- Give chloramphenicol (see p 400). If there is no chloramphenicol, use ampicillin If there is no ampicillin either, use trimethaprim
- Lower the fever with cool wet cloths (see p 88)
- Give plenty of liquids soups, juices, and Rehydration Drink to avoid dehydration (see p 182)
- Give nutritious foods, in liquid form if necessary
- The person should stay in bed until the fever is completely gone
- If the person shits blood or develops signs of peritonitis (p 108) or pneumonia (p.208) , **seek medical help at once.**

Prevention of typhoid

- To prevent typhoid, care must be taken to avoid contamination of water and food by human feces Follow the guidelines of personal and public hygiene in Chapter 12 Make and use latrines Be sure latrines are a safe distance from where people get drinking water

Do not eat food exposed to flies and other insects, especially during fairs and in the festival season.

- Cases of typhoid often appear after a flood or other disaster, and special care must be taken with cleanliness at these times Be sure drinking water is clean If there are cases of typhoid in your village, boil all drinking water. Look for the cause of contaminated water or food

- To avoid the spread of typhoid, a person who has the disease should stay in a separate room No one else should eat or drink from the dishes he uses His stools should be burned or buried in deep holes Persons who care for him should wash their hands right afterwards

- After recovering from typhoid some persons still carry the germs of the disease and can spread it to others For this reason anyone who has had typhoid should be extra careful with personal cleanliness and should not work in restaurants or where food is handled Sometimes ampicillin is effective in treating typhoid carriers

- Take vaccination against typhoid once in 6 months especially during summer (see p 175)

CHOLERA

This is a very infectious and dangerous disease and often comes as an epidemic especially after a big fair or festival where uncovered food is sold It is spread from *feces-to-mouth* mainly by flies (p 156)

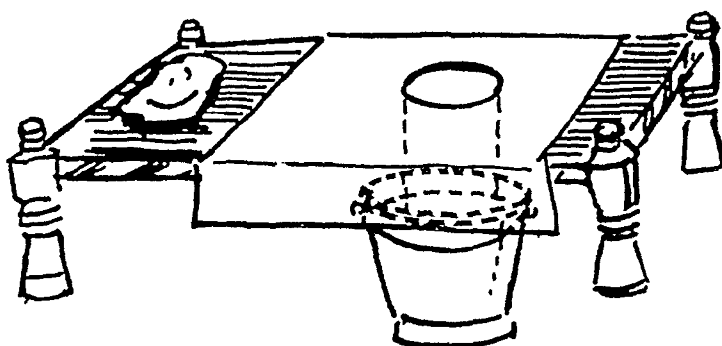
Signs

* The patient continuously passes watery stools, which look like rice water (p 189) The grains in the stools are bits of the inner intestinal wall
* This results in dehydration *and the patient may die*
* He may also have a slight fever

Treatment

Cholera is highly dangerous **The patient may die without medical help.** Deaths in cholera are due to dehydration To prevent dehydration, and treat the disease,

* give him tetracycline (see p 400)
* give him Rehydration Drink (p 182) many times a day
* give him nutritious foods may be in liquid form
* Make him a cholera bed to lie on



Make a hole in a charpoy or bed just at the place where his buttocks lie Keep a bucket under this hole and fit a wide rubber tube into the hole The tube should also fit the bucket The patient passes his stools directly into the bucket

Dig a pit far from the house, or source of drinking water When the bucket gets full, empty it into this pit Pour any water used to wash the bucket into the pit Then immediately cover the pit **before** any flies can sit on it

Seek medical help.

Prevention:

Cholera spreads very easily (p 158) Great care must be taken not eat or drink contaminated food and water Follow the guidelines for personal and public hygiene given in Chapter 12

* If there is a case of cholera in your house, your village or community, **inform the health authorities at once** so that they can check its spread
* Get your family, your village or your community vaccinated against cholera once in 6 months, especially if there is an epidemic

- Isolate the cholera patient in a room where there are no flies
- Wash hands thoroughly after caring for the patient, or carrying the bucket
- Keep the dishes, utensils used by the sick person separate Do not let any one else use them
- **Boil all drinking water,** especially if there is a case of cholera in your village
- **Keep all food and drinking water covered** so that flies do not sit on it
- Take care not to eat food that is sold openly on the roadsides and in the shops These foods are not usually covered, and can cause cholera

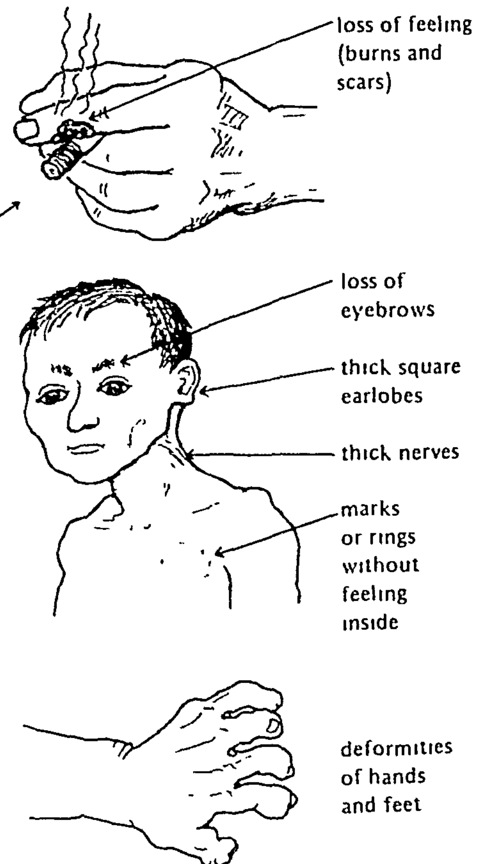
LEPROSY (HANSEN'S DISEASE)

Many people living in the area where leprosy is common are infected with this disease but only a very few of them develop the signs of this disease Leprosy is spread by skin to skin contact and through sneezing, coughing spitting (droplet infection)

Signs

The signs differ greatly according to the person's natural resistance to the disease

- Often the main sign is **loss of feeling,** usually first in the hands and feet Persons with leprosy sometimes burn themselves without knowing it
- Skin signs vary greatly They include pale spots or big ringworm-like marks that have loss of feeling in the center, swollen nerves that form thick cords or lumps under the skin, and large, chronic sores that do not hurt or itch In one form of leprosy the skin of the face becomes thick and lumpy or the earlobes may become thick, short, and square The eyebrows are often lost, first the outer part and then completely
- In advanced cases, the hands and feet may become partly paralyzed and claw-like Fingers and toes, or entire hands and feet, may gradually get shorter and become stumps



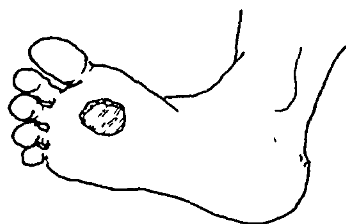
POSSIBLE SIGNS OF LEPROSY

Treatment of leprosy:

Leprosy is usually curable, but medicine must be taken for years The best medicines are the sulfones For the dose, see page 405 If a "lepra reaction" (fever, a rash, pain and perhaps swelling of hands and feet, or eye damage) occurs or gets worse while taking the medicine, **get medical help.**

Prevention of damage to hands and feet:

The large open sores and gradual loss of hands and feet so often seen in persons with leprosy are not caused by the disease itself and can be prevented They result because, when feeling has been lost, a person no longer protects himself against injury



For example, if a person with normal feeling walks a long way and begins to get blisters on his feet, these hurt, so he stops walking or limps This protects his feet from further damage But a person with leprosy, who feels no pain, will keep on walking, and the blister turns into an open sore This becomes infected, and because it still does not hurt the person does not protect it or give it a chance to heal So the infection slowly spreads into the bones and begins to destroy them Typical deformities result But with care they can be prevented

1 Protect hands and feet from things that can cut, bruise, blister, or burn them

Do not go barefoot, especially not where there are sharp stones or thorns Wear shoes or sandals Put soft padding inside shoes and under straps that may rub





When you are working with your hands, or cooking meals, wear gloves Never pick up a pan or other object that **might** be hot without first protecting your hand with a thick glove or folded cloth If possible, avoid work that involves handling sharp or hot objects Do not smoke When you are cooking sit far from the fire

2 At the end of each day (or more often if you work hard or walk far) examine your hands and feet very carefully—or have someone else examine them Look for cuts, bruises, or thorns Also look for spots or areas on the hands and feet that are red, hot, swollen or show the beginnings of blisters If you find any of these, rest the hands or feet until the skin is completely normal again In this way the skin will become calloused and stronger, instead of blistered and raw Sores can be prevented

3 If you already have an open sore, or one forms, keep the part with the sore very clean and at rest until it has completely healed Then take great care not to injure the area again

If you do these things and begin treatment early most deformities with leprosy can be prevented.

CHAPTER

15 SKIN PROBLEMS

Some skin problems are caused by diseases or irritations that affect the skin only—such as ringworm, diaper rash, or warts Other skin problems are signs of diseases that affect the whole body—such as the rash of measles or the sore, dry patches of pellagra (malnutrition) Certain kinds of sores or skin conditions may be signs of serious diseases—like tuberculosis, syphilis, or leprosy

This chapter deals only with the more common skin problems in rural areas However, there are hundreds of diseases of the skin Some look so much alike that they are hard to tell apart—yet their causes and the specific treatments they require may be quite different

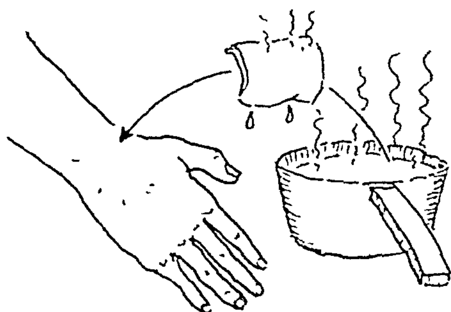
If a skin problem is serious or gets worse in spite of treatment, seek medical help.

GENERAL RULES FOR TREATING SKIN PROBLEMS

Although many skin problems need specific treatment, there are a few general measures that often help

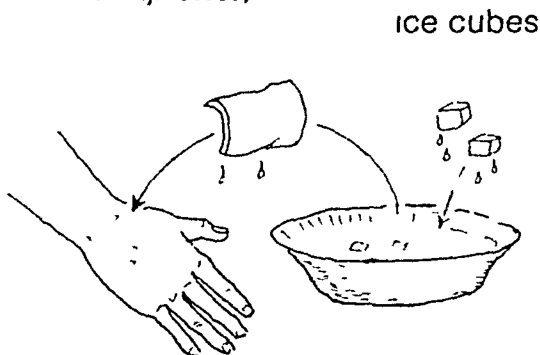
RULE #1

If the affected area is **hot** and painful, treat it with **heat.** Put hot, moist cloths on it *(hot compresses)*



RULE #2

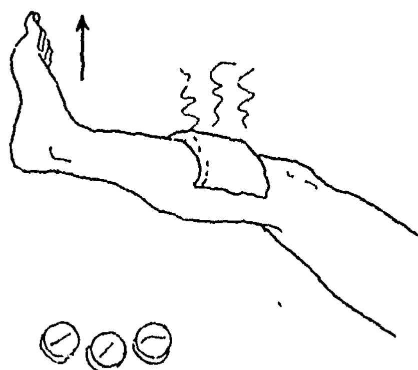
If the affected area itches, stings, or oozes, treat it with **cold.** Put cool, wet cloths on it *(cold compresses)*



RULE #1 *(in greater detail)*

If the skin shows signs of serious infection such as

- inflammation (redness of skin around the affected areas)
- swelling
- pain
- heat (it feels hot)
- pus



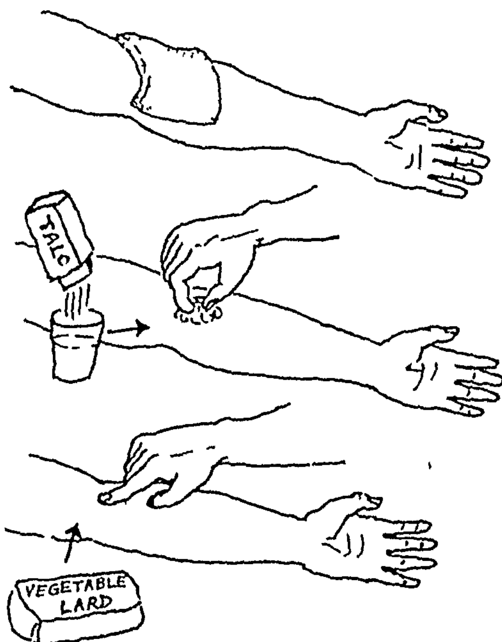
Do the following

- Keep the affected part still and elevate it (put it higher than the rest of the body)
- Apply hot, moist cloths
- If the infection is severe or the person has a fever, give antibiotics (penicillin or a sulfonamide)

Danger signs include swollen lymph nodes, a red line above the infected area, or a bad smell If these do not get better with treatment—use an antibiotic and seek medical help quickly

RULE #2 (in greater detail)

If the affected skin forms blisters or a crust, oozes, itches, stings, or burns, do the following

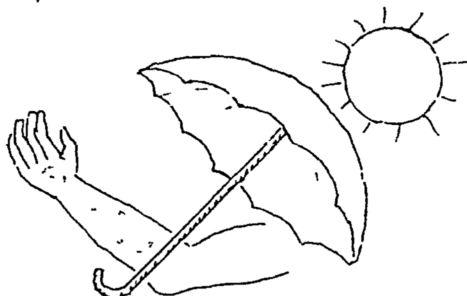


- Apply cloths soaked in cool water with white vinegar (2 tablespoons of vinegar in 1 quart of pure or boiled water)

  Instead of white vinegar, you can also use potassium permanganate Add a pinch of potassium permanganate to a litre of cool water
- When the affected area feels better, no longer oozes, and has formed tender new skin, lightly spread on a mixture of talc and water (1 part talc to 1 part water)
- When healing has taken place, and the new skin begins to thicken or flake, rub on a little vegetable oil or body oil to soften it

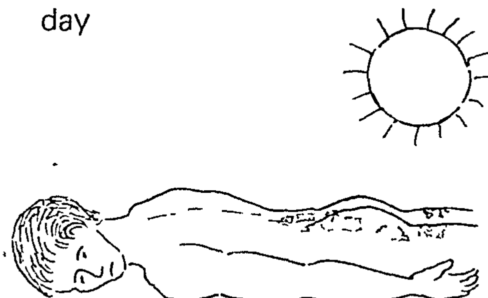
RULE #3

If the skin areas affected are on parts of the body often exposed to sunlight, protect them from the sun



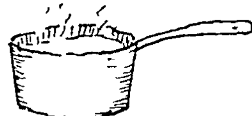
RULE #4

If the skin areas most affected are usually covered by clothing, expose them to direct sunlight for 20 minutes, 2 or 3 times a day

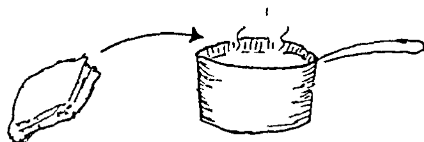


Instructions for Using Hot Compresses (Hot Soaks):

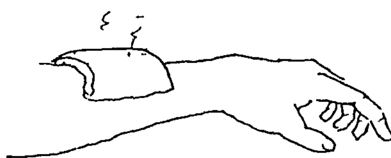
1 Boil water and allow it to cool until you can just hold your hand in it



2 Fold a clean cloth so it is slightly larger than the area you want to treat, wet the cloth in the hot water, and squeeze out the extra water



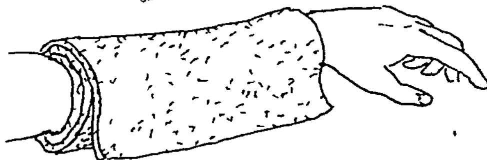
3 Put the cloth over the affected skin



4 Cover the cloth with a sheet of thin plastic or cellophane

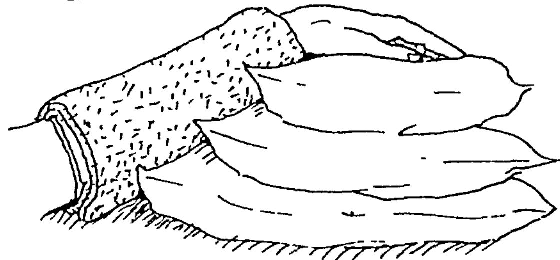


5 Wrap it with a towel to hold in the heat



6 Keep the affected part raised

7 When the cloth starts to cool, put it back in the hot water and repeat



SKIN PROBLEMS — A Guide to Identification

IF THE SKIN HAS:	AND LOOKS LIKE:	YOU MAY HAVE	SEE PAGE
small or pimple like sores	Tiny bumps or sores with much itching—first between fingers, on the wrists, or the waist	scabies	241
	Pimples or sores with pus or inflammation, often from scratching insect bites May cause swollen lymph nodes	infection from bacteria	242
	Irregular, spreading sores with shiny, yellow crusts	impetigo (bacterial infection)	243
	Pimples on young people's faces, sometimes chest and back, often with small heads of pus	acne, pimples, blackheads	252
	A sore on the genitals, without itching or pain	syphilis venereal lymphogranuloma	281 283
a large, open sore or skin ulcer	A large chronic (unhealing) sore surrounded by purplish skin—on or near the ankles of older people with varicose veins	ulcers from bad circulation (possibly diabetes)	254 149
	Sores over the bones and joints of very sick persons who cannot get out of bed	bed sores	255
	Sores with loss of feeling on the feet or hands (They do not hurt even when pricked with a needle)	leprosy	232
lumps under the skin	A warm, painful swelling that occasionally breaks open	abscess or boil	243
	A warm, painful lump in the breast of a woman breast feeding	mastitis (bacterial infection), possibly cancer	324 325
	A lump that keeps growing Usually not painful at first	cancer (also see lymph nodes)	325 101

A Guide to Identification

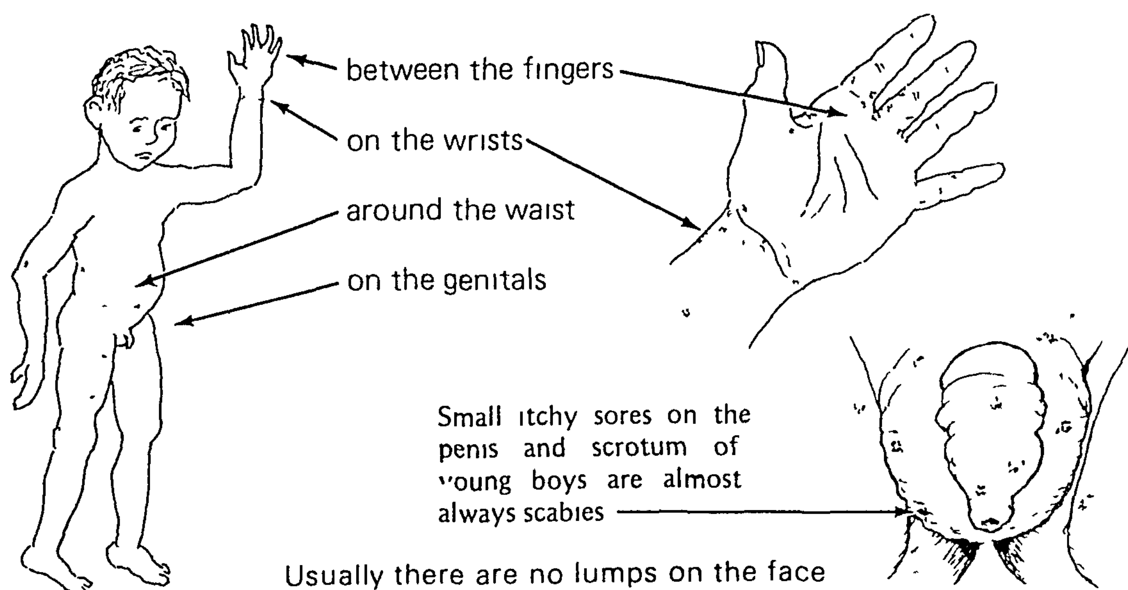
IF THE SKIN HAS	AND LOOKS LIKE	YOU MAY HAVE	SEE PAGE
swollen lymph nodes	Nodes on the side of the neck that continuously *break open* and scar	a type of tuberculosis	253
	Nodes in the groin that continuously break open and scar	lymphogranuloma Venereum (l.g.v)	283
large spots or patches — dark	Dark patches on the forehead and cheeks of pregnant women	mask of pregnancy	248
dark	Scaly, cracking areas that look like sunburn on the arms, legs, neck, or face	pellagra (a type of malnutrition)	249 250
dark	Purple spots or peeling sores on children with swollen feet	malnutrition	249 250
white	Round or irregular patches on the body especially of young adults children	tinea versicolor (fungus infection)	247
white	White patches, especially on hands, feet or lips that begin without other signs	vitiligo (loss of color nothing more)	248
reddish	Reddish or blistering patches on the cheeks or behind knees and elbows of young children	infantile eczema	257
reddish	A reddish, hot, painful patch that spreads rapidly	erysipelas (a very serious bacterial infection)	253
reddish	A reddish area between a baby's legs	diaper rash from urine or heat	256
reddish	Beef red patches with white, milky curds in the skin folds	moniliasis (yeast infection)	286
reddish or gray	Raised reddish or gray patches with silvery scales especially on elbows and knees chronic (long term)	psoriasis (or sometimes tuberculosis)	257 253

A Guide to Identification

IF THE SKIN HAS	AND LOOKS LIKE	YOU MAY HAVE	SEE PAGE
warts	Simple warts, not very large	common warts (virus infection)	251
	Large warts (more than 1 cm), often on arms or feet	a type of tuberculosis of the skin	253
rings (spots with raised or red edges, often clear in the center)	Small rings that continue to grow or spread and may itch	ringworm (fungus infection)	246
	Large rings that are numb in the center (A needle prick does not hurt them)	leprosy	232
	Small rings, sometimes with a small pit in the middle, found on the temple, nose, or neck	may be cancer of the skin	252
welts or hives	Very itchy rash, bumps, or patches (They may appear and disappear rapidly)	allergic reaction	244
blisters	Blisters with bumps and much itching and weeping (oozing)	contact dermatitis (like poisonous plants)	245
	Small blisters over the whole body, with some fever These blisters later form scabs	chickenpox	358
	A patch of painful blisters that appears only on one part of the body, often in a stripe or cluster	Herpes zoster (shingles)	245
	A gray or black bad smelling area with blisters and air pockets that spread	gas gangrene (very serious bacterial infection)	254
small reddish spots or a rash over the whole body, fever	A rash that very sick children get over the whole body	measles	358
	A rash that appears after taking medicine	allergic reaction to medicine 244	

SCABIES

Scabies is especially common in children It causes very itchy little bumps that can appear all over the body, but are most common



Scabies is caused by little animals—similar to tiny ticks —which make tunnels under the skin It is spread by touching the affected skin or by clothes and bedding Scratching can cause infection, producing sores with pus, and sometimes swollen lymph nodes or fever

Treatment

- If one person has scabies, everyone in his family should be treated
- Make the following paste Boil some neem leaves with a little water Grind this with some turmeric powder (Haldi) to form a thick paste

  Wash the whole body vigorously, scrubbing well with soap and water Smear the neem and turmeric paste on the whole body, especially between the fingers, the groin and between the toes Stand in the sun for sometime Apply more paste everyday for 3 days **Do not bathe** Boil all clothes towels bedding bedsheets used during these three days and dry in the sun On the fourth day bathe well and wear the freshly dried clothes
- Personal cleanliness is of first importance Bathe and change clothes daily Wash all clothes and bedding, and dry them in the sun
- Instead of neem and turmeric paste, you can mix some sulfur in an equal amount of hot cooking oil and apply it on the body

Note: Commercial ointment or solution of gamma benzene hexachloride or benzyl bensoate (p 411) also kill scabies, but are more expensive

LICE



Head lice and body lice cause itching, and sometimes skin infections and swollen lymph nodes To avoid lice, take great

care with personal cleanliness. Put cots, pillows, and bedding in the sun every day. Bathe and wash hair often. Check children's hair. If they have lice, treat them at once. Do not let a child with lice sleep with others.

Treatment:

- Make a solution of equal parts of kerosene and hair oil
- Apply the solution in the evening
- Apply the solution to each separate strand of hair so that the medicine comes in contact with all the lice and nits (lice eggs)
- After applying solution, wrap the head in a towel
- In the morning wash hair with soap nut powder, and comb it with a fine toothed comb
- Soak the brush and comb in kerosene oil to remove the lice present in it
- *To get rid of nits, soak hair in hot vinegar and water for half hour and then comb it* thoroughly with a fine toothed comb

* Repeat application after 10 days

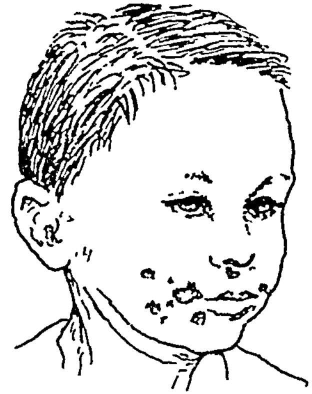
SMALL SORES WITH PUS

Skin infections in the form of small sores with pus often result from scratching insect bites, scabies, or other irritations with dirty fingernails

Treatment and Prevention:

- Wash the sores well with soap and boiled water, gently soaking off the scabs Do this daily as long as there is pus.
- Leave small sores open to the air Bandage large sores and change the bandage frequently
- If the skin around a sore is red and hot, or if the person has a fever, red lines coming from the sores, or swollen lymph nodes, use an antibiotic—such as penicillin tablets (p.397) or sulfa tablets (p 402).
- Do not scratch sores This makes them worse and can spread infection to other parts of the body Cut the fingernails of small children very short—or put gloves or socks over their hands so they cannot scratch
- Never let a child with sores or any skin infection play or sleep with other children These infections are easily spread
- Sores in babies may mean serious infection Show the baby to the health worker

IMPETIGO



This is a bacterial infection that causes rapidly spreading sores with shiny, yellow crusts It often occurs on children's faces, especially around the mouth Impetigo can spread easily to other people from the sores or contaminated fingers

Treatment:

- Wash the affected part with soap and boiled water, gently soaking off the crusts
- Paint the sores with gentian violet (p 409) or spread on an antibiotic cream such as *Polysporin* (p 409) or tetracycline, if that is all you have
- If the infection is spread over a large area or causes fever, give penicillin tablets (see p 397)

Prevention:

- Follow the Guidelines of Personal Cleanliness (p 107). Bathe children daily and protect them from bedbugs and biting flies If a child gets scabies, treat him as soon as possible
- Do not let a child with impetigo sleep or play with other children Begin treatment at the first sign

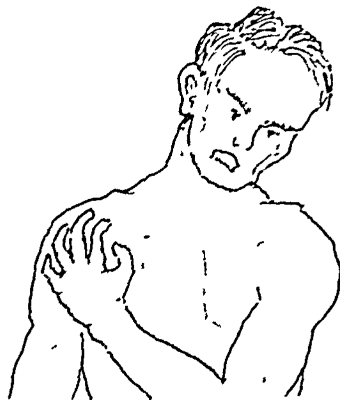
BOILS AND ABSCESSES

A boil, or abscess, is an infection that forms a sac of pus under the skin Sometimes it results from a puncture wound or an injection given with a dirty needle A boil is painful and the skin around it becomes red and hot It can cause swollen lymph nodes and fever

Treatment:

- Put hot compresses over the boil several times a day (see instructions on p 237)
- Let the boil break open by itself After it breaks, continue applying hot compresses Allow the pus to drain, but never press or squeeze the boil, since this may cause the infection to spread to other parts of the body.
- If the boil causes swollen nodes or fever, take penicillin tablets (p 397) or erythromycin (p 400)

ITCHING RASH, WELTS, OR HIVES (ALLERGIC REACTIONS IN THE SKIN)



Touching, eating, injecting, or breathing certain things can cause an itching rash or *hives* in allergic persons For more details, see Allergic Reactions, p 203

Hives are thick, raised spots or patches that look like bee stings and itch like mad They may come and go rapidly or move from one spot to another

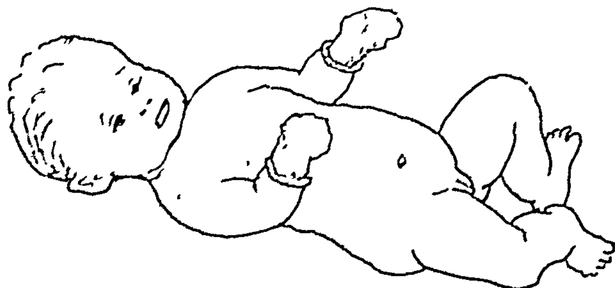
Be on the watch for any reaction caused by certain medicine like penicillin ampicillin sulfas phenobarbitone, and the antivenins or antitoxins made from horse serum Injections can be especially dangerous A rash or hives may appear from a few minutes upto 10 days after the medicine has been injected

If you get an itching rash, hives, or any other allergic reaction after taking or being injected with any medicine, stop using it and never use that medicine again in your life!

This is very important to prevent the danger of ALLERGIC SHOCK (see p 83)

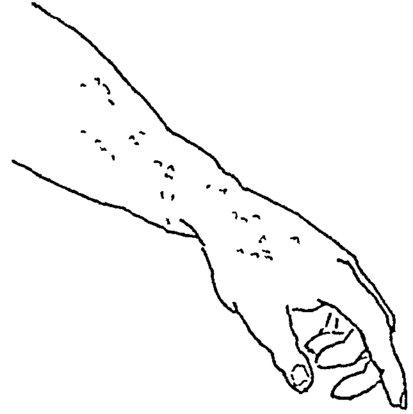
Treatment of itching:

- Bathe in cool water or use cool compresses—cloths soaked in cold water or ice water
- Compresses of cool dalia (broken wheat) water also calm itching Boil the dalia in water strain it, and use the water when cool (Starch can be used instead of dalia)
- If itching is severe, take an antihistamine like chlorpheniramine (p 419)



- To protect a baby from scratching himself, cut his fingernails very short, or put gloves or socks over his hands

PLANTS AND OTHER THINGS THAT CAUSE ITCHING OR BURNING OF THE SKIN — CONTACT DERMITITIS



Nettles, 'stinging trees', sumac, 'poison ivy', and many other plants may cause blisters, burns, or hives with itching when they touch the skin Juices or hairs of certain caterpillars and other insects produce similar reactions

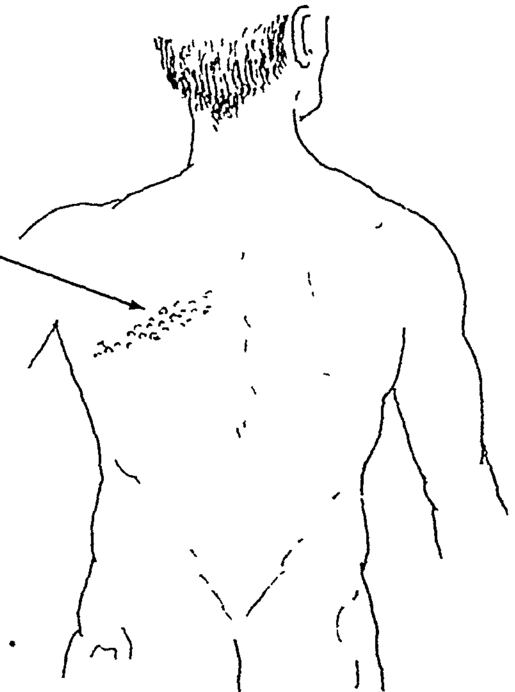
In allergic persons rashes or 'weeping' sore patches may be caused by certain things that touch or are put on the skin Rubber shoes, watchbands, ear drops and other medicines, face creams, perfumes, or soaps may cause such problems

Treatment.

All these irritations go away by themselves when the things that cause them no longer touch the skin Aspirin or antihistamines (p 419) may also help In severe cases, you can use a cream that contains cortisone or a corticosteroid (see p 409)

SHINGLES (HERPES ZOSTER)

Signs:



A line or patch of painful blisters that appears all of a sudden on one side of the body is probably shingles It is most common on the back, chest, neck, or face The blisters usually last 2 or 3 weeks, then go away by themselves Sometimes the pain continues or returns long after the blisters are gone

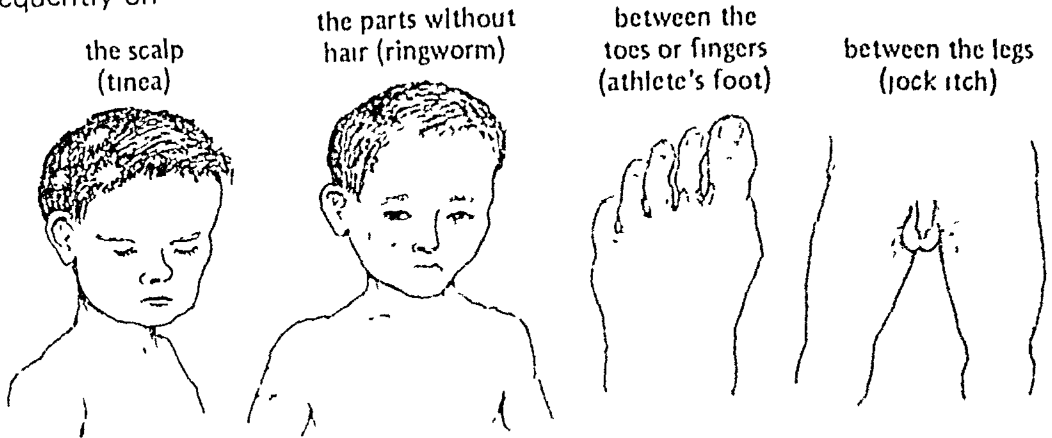
Shingles is caused by the virus that causes chickenpox and usually affects persons who have had chickenpox before It is not dangerous (However, especially in older persons, it is occasionally a warning sign of some other more serious problem—perhaps cancer)

Treatment.

- Put light bandages over the rash so that clothes do not rub against it
- Take aspirin for the pain (Antibiotics do not help)

RINGWORM, TINEA (FUNGUS INFECTIONS)

Fungus infections may appear on any part of the body, but occur most frequently on



Most fungus infections grow in the form of a ring They often itch Ringworm of the head can produce round spots with scales and loss of hair Fingernails infected with the fungus become rough and thick

Treatment

- Soap and water Washing the infected part every day with soap and water may be all that is needed If possible, use a soap with hexachlorophene (p 409)
- Do your best to keep the affected areas dry and exposed to the air or sunlight Change underwear or socks often, especially when sweaty
- Use a cream of sulfur and oil (1 part sulfur to 10 parts oil)
- Creams with salicylic acid (Whitefield's ointment p 410) or undecylenic ac helps cure the fungus between the fingers, toes and groin
- For severe tinea of the scalp, or any fungus infection that is widespread or does not get better with the above treatments, take griseofulvin, It may be necessary to keep taking it for weeks or even months to completely control the infection (p 410)



- Many tineas of the scalp clear up when a child reaches puberty (11 to 14 years old) Severe infections forming large swollen patches with pus should be treated with compresses of warm water (p 237) It is important to pull out all of the hair from the infected part

How to prevent fungal infections:

Ringworm and all other fungus infections are ***contagious*** (easily spread) To prevent spreading them from one child to others

- Do not let a child with a fungal infection sleep with the others
- Do not let different children use the same comb or use each other's clothing unless these are washed or well cleaned first
- Treat an infected child at once

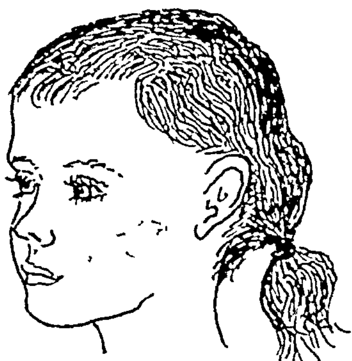
WHITE SPOTS ON THE FACE AND BODY

Small dark or light spots with a distinct and irregular border that are often seen on the neck, chest, and back may be a fungal infection called **tinea versicolor.** It usually does not itch and is of little medical importance



Treatment:

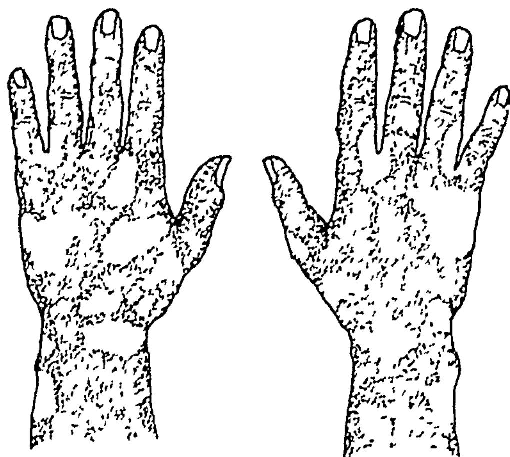
- Make a cream with sulfur and oil (1 part sulfur to 10 parts oil) and apply it to the spots every day until they disappear
- Sodium thiosulfate works even better This is the 'hypo' photographers use when developing film Dissolve a tablespoon of sodium thiosulfate in a glass of water, apply it to the skin, and then rub the skin with a piece of cotton dipped in vinegar Continue applying it daily for a month
- To prevent the spots from returning, it is often necessary to repeat this treatment every 2 weeks



There is **another kind of small whitish spot** that is common on the cheeks of dark-skinned children who spend a lot of time in the sun The border is less clear than in tinea versicolor. These spots are not an infection and are of no importance Usually they go away as the child grows up No treatment is needed

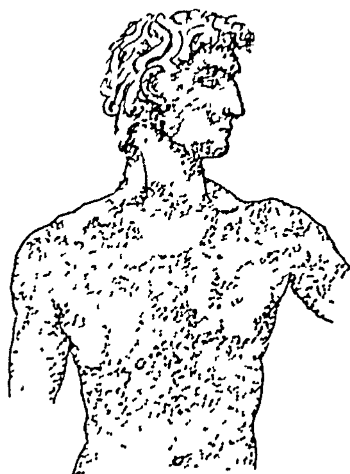
Contrary to popular opinion, none of these types of white spots is a sign of anemia. They will not go away with tonics or vitamins The spots that are only on the cheeks do not need any treatment.

Vitiligo (White Areas of the Skin)



In some persons, certain areas of the skin lose their natural color (pigment). Then white patches appear These are most common on the hands, feet, face, and upper body This loss of normal skin color—called vitiligo—is not an illness It can be compared to white hair in older people No treatment helps or is needed, but the white skin should be protected from sunburn—with clothing or an ointment of zinc oxide

Other Causes of White Skin Patches

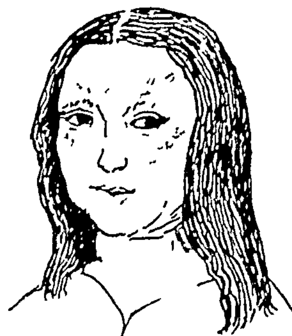


Certain diseases may cause white spots that look like vitiligo

Any whitish patch that **has no feeling** when pricked with a pin is probably leprosy (see p 232)

Some fungus infections also cause whitish spots (see tinea versicolor)

MASK OF PREGNANCY



During pregnancy many women develop dark, olive-colored areas on the skin of the face, breasts, and down the middle of the belly Sometimes these disappear after the birth and sometimes not

These marks also appear sometimes on women who are taking birth control pills

They are completely normal and do not indicate weakness or sickness No treatment is needed

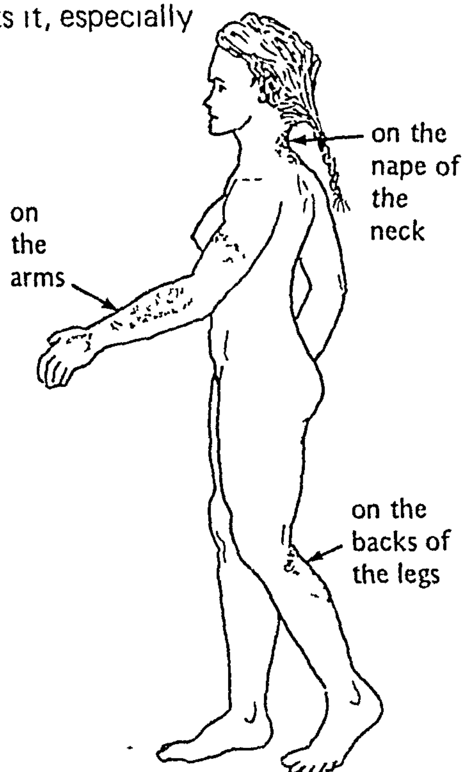
PELLAGRA
AND OTHER SKIN PROBLEMS DUE TO MALNUTRITION

Pellagra is a form of malnutrition that affects the skin and sometimes the digestive and nervous systems It is very common in places where people eat a lot

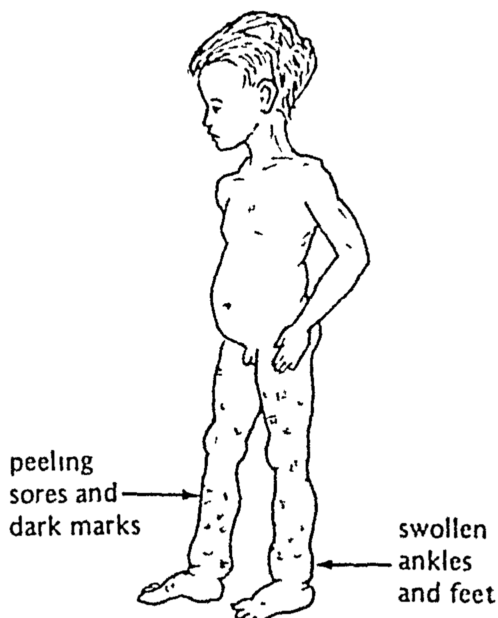
of maize (corn) or other starchy foods and not enough beans, meat, eggs, vegetables, and other body-building and protective foods (see p 128 and 129). In winter most people in Northern India eat chapatis made of maize flour They should add some wheat flour before making the chapatis

Skin signs in malnutrition (see the pictures on the following page)

In adults with pellagra the skin is dry and cracked, it peels like sunburn on the parts where the sun hits it, especially



In malnourished children, the skin of the legs (and sometimes arms) may have dark marks, like bruises, or even peeling sores, the feet may be swollen (see p 133).



When these conditions exist, often there are also other signs of malnutrition swollen belly, sores in the corners of the mouth, red, sore tongue, weakness, loss of appetite, failure to gain weight, etc (see Chapter 11, p 133)

Treatment:

- Eating nutritious foods cures pellagra Every day a person should eat beans, lentils, groundnuts, or some chicken, fish, eggs, meat, or cheese When you have a choice, it is also better to use wheat (preferably whole wheat) instead of maize (corn).
- For severe pellagra and some other forms of malnutrition, it may help to take vitamins, but **good food is more important.** Be sure the vitamin formula you use is high in the B vitamins, especially niacin Brewer's yeast is a good source of B vitamins



BEFORE THIS BOY BEGAN TO EAT WELL ←

AND AFTER →



The swelling and dark spots on this boy's legs and feet are the result of poor nutrition He was eating mostly maize (corn) without any foods rich in proteins and vitamins

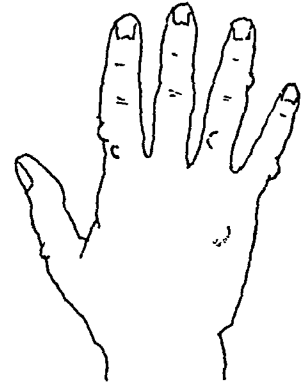
One week after he began to eat beans and eggs along with the maize, the swelling was gone and the spots had almost disappeared



The 'burnt' skin on the legs of this woman is a sign of pellagra—which results from not eating well (see p 249)

WARTS (VERRUCAE)

Most warts, especially those in children, last 3 to 5 years and go away by themselves Flat, painful wart-like spots on the sole of the foot are often 'plantar warts' (Or they may be corns See below)



Treatment:

- Magical or household cures often get rid of warts But do not use strong acids or poisonous plants, as these may cause burns or sores much worse than the warts
- Painful plantar warts sometimes can be removed by a health worker

CORNS

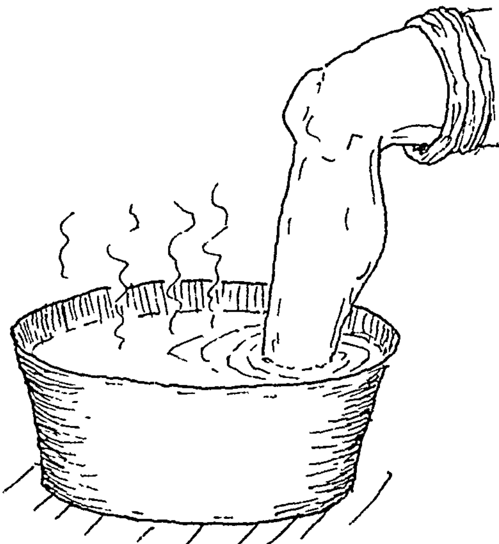
A corn is a hard, thick part of the skin It forms where sandals or shoes push against the skin, or one toe presses against another Corns can be very painful

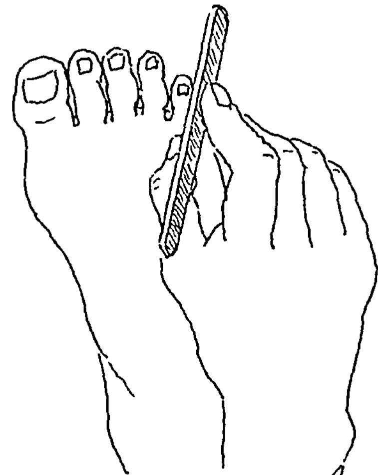
Treatment:

- Get sandals or shoes that do not press on the corns
- Put a pad of cotton or foam below the area of pressure
- To make corns hurt less, do this

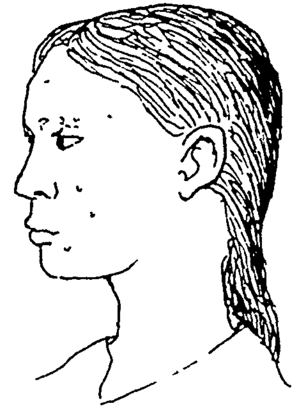
1 Soak the foot in warm water for 15 minutes

2 With a file or rasp, trim down the corn until it is thin





PIMPLES AND BLACKHEADS (ACNE)



Young people sometimes get pimples on their face, chest, or back—especially if their skin has too much oil in it Sometimes They can become quite sore and large and get infected

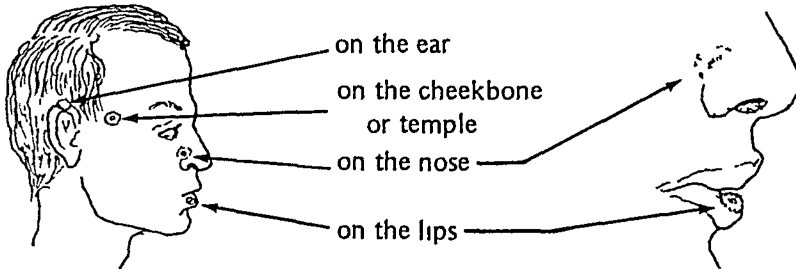
Do not pinch or touch any pimple Pinching or touching pimples on the nose and around the mouth is especially dangerous

Treatment

- Wash the face twice a day with soap and hot water
- Sunshine helps clear pimples Let the sunlight fall on the affected parts of the body
- Eat as well as possible, drink a lot of water, and get enough sleep
- For serious cases forming lumps and pockets of pus, if these do not get better with the methods already described, tetracycline may help

CANCER OF THE SKIN

Skin cancer is most frequent in light-skinned persons who spend a lot of time in the sun It usually appears in places where the sun hits with most force, especially



Skin cancer may take many forms It usually begins as a little ring the color of pearl with a hole in the center It grows little by little

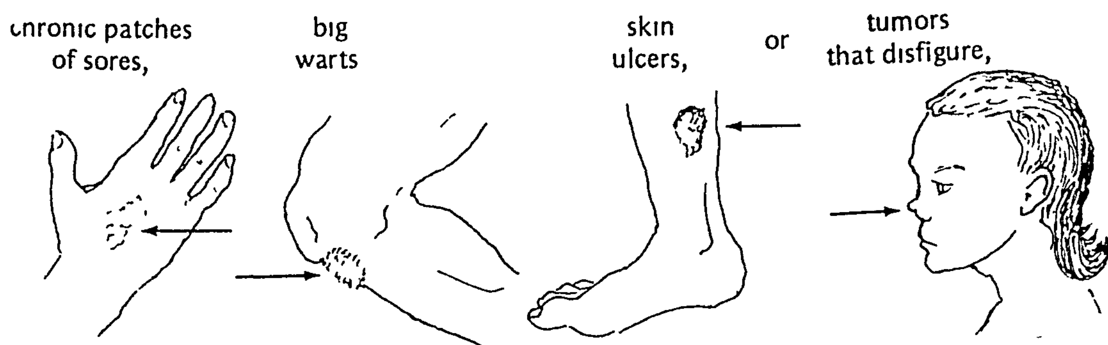
Most cancers of the skin are not dangerous if treated in time. Surgery is needed to remove them If you have a chronic sore that might be skin cancer, see a health worker

To prevent skin cancer, light-skinned persons should protect themselves from the sun and always wear a hat Persons who have suffered from cancer of the skin and have to work in the sun can buy special creams that protect them Zinc oxide ointment is cheap and works well

TUBERCULOSIS OF THE SKIN OR LYMPH NODES

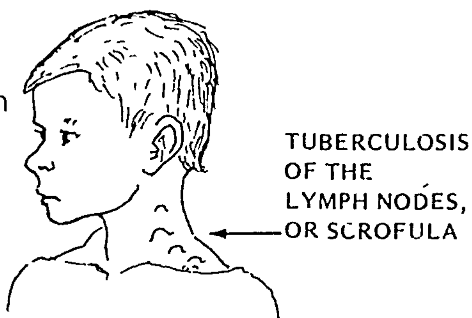
The same microbe that causes tuberculosis of the lungs also sometimes affects the skin, causing painless

chronic patches of sores, big warts skin ulcers, or tumors that disfigure,



As a rule, TB of the skin develops slowly, lasts a long time, and keeps coming back over a period of months or years Very often it is difficult to diagnose

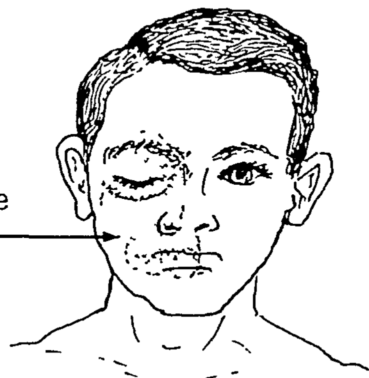
Also, tuberculosis sometimes infects the lymph nodes—most often those of the neck or in the area behind the collar bone, between the neck and the shoulder The nodes become large, open, drain pus, seal closed for a time, and then open and drain again Usually **they are not painful.**



Treatment

In the case of any chronic sore, ulcer, or swollen lymph nodes, it is best to seek medical advice Tests may be needed to learn the cause Tuberculosis of the skin is treated the same as tuberculosis of the lungs (see p 220) To keep the infection from returning, the medicines must be taken for many months after the skin looks well

ERYSIPELAS



This is a very painful, acute infection in the skin It forms a hot, red, swollen patch with a sharp border The patch spreads rapidly over the skin It often begins on the face, at the edge of the nose This usually causes swollen lymph nodes, fever, and chills

Treatment

Begin treatment as soon as possible Use an antibiotic penicillin tablets, 400,000 units, 4 times a day, in serious cases, injectable procaine penicillin, 800,000 units daily (see p 399) Continue using the antibiotic for 2 days after all signs of infection are gone Also use hot compresses—and aspirin for pain

GANGRENE (GAS GANGRENE)



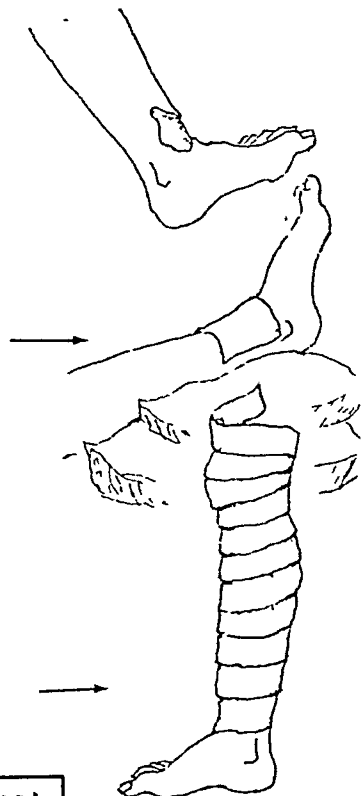
This is a very dangerous infection of a wound, in which a foul-smelling gray or brown liquid forms The skin near the wound may have dark blisters and the flesh may have air bubbles in it. The infection begins between 6 hours and 3 days after the injury It quickly gets worse and spreads fast Without treatment it causes death in a few days

Treatment.

- Open up the wound as wide as possible Wash it out with boiled water and soap Clean out the dead and damaged flesh If possible, flood the wound with hydrogen peroxide every 2 hours
- Inject penicillin (crystalline if possible),
- **Leave the wound uncovered so that air gets to it. Get medical help.**

ULCERS OF THE SKIN CAUSED BY POOR CIRCULATION

Skin ulcers, or large, open sores have many causes (see p 238) However, chronic ulcers on the ankles of older persons, especially in women with varicose veins, usually come from poor circulation The blood is not moved fast enough through the legs Such ulcers may become very large The skin around the ulcer is dark blue, shiny, and very thin Often the foot is swollen



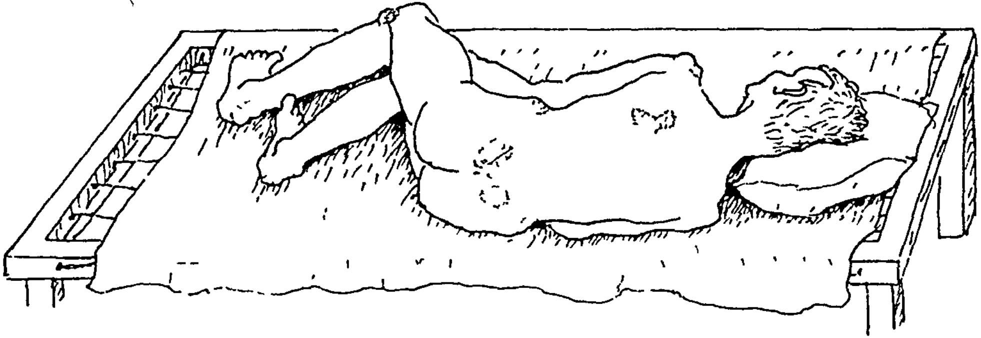
Treatment.

- These ulcers heal very slowly—and only if great care is taken Most important **keep the foot up** —as high and as often as possible Sleep with it on pillows During the day, rest with the foot up high every 15 or 20 minutes **Walking helps the circulation, but standing in one place and sitting with the feet down are harmful.**
- Put warm compresses of weak salt water on the ulcer—1 teaspoon salt to a liter of boiled water Cover the ulcer loosely with sterile gauze or a clean cloth **Keep it clean.**
- Support the varicose veins with elastic stockings or bandages Continue to use these and to keep the feet up after the ulcer heals Take great care not to scratch or injure the delicate scar

Prevent skin ulcers—care for varicose veins early (see p. 212).

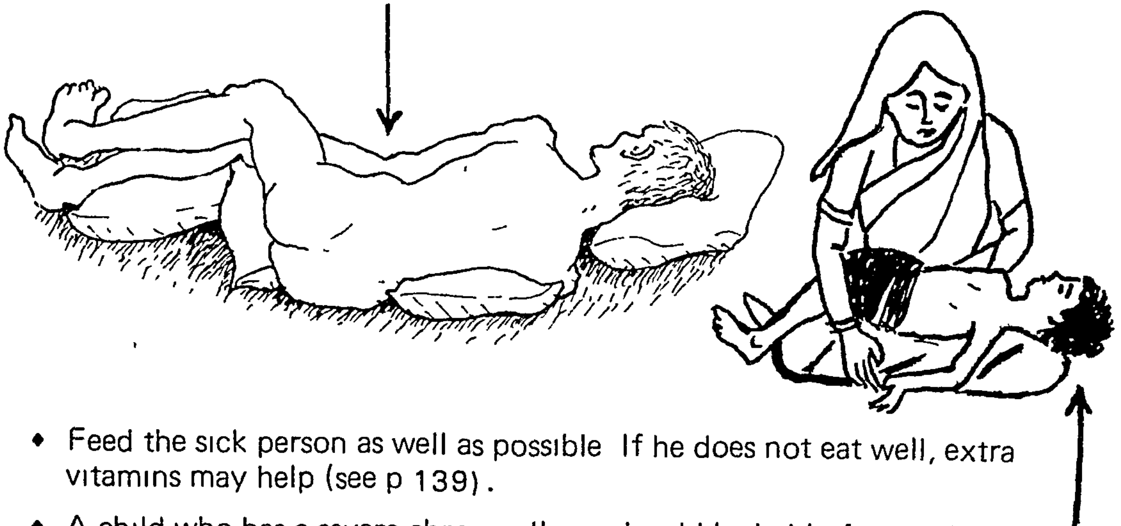
BED SORES

These chronic open sores appear in persons so ill they cannot roll over in bed, especially in sick old persons who are very thin and weak The sores form over bony parts of the body where the skin is pressed against the bedding They are most often seen on the buttocks, back, elbows, or feet



How to prevent bed sores:

- Turn the sick person over every hour face up, face down, or from one side to the other
- Bathe him every day and rub his skin with rubbing alcohol
- Use soft bed sheets and padding Change them daily and each time the bedding gets dirty with urine, stools, vomit, etc
- Put cushions under the person in such a way that the bony parts rub less



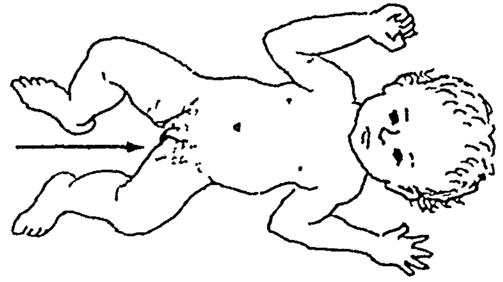
- Feed the sick person as well as possible If he does not eat well, extra vitamins may help (see p 139).
- A child who has a severe chronic illness should be held often on his mother's lap

Treatment:

- Do all the things mentioned above
- Wash the sores with boiled water mixed with a little salt or hydrogen peroxide Protect them with sterile gauze bandages

SKIN PROBLEMS OF BABIES

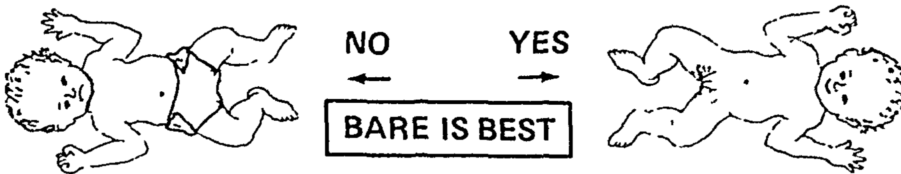
Diaper Rash



Reddish patches of irritation between a baby's legs or buttocks may be caused by urine in his diapers (nappy) or bedding This is common when plastic diapers are used

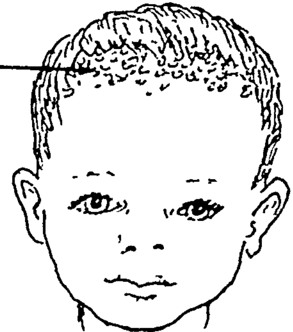
Treatment:

- Bathe the child daily with lukewarm water and mild soap
- **To prevent or cure the rash, the child should be kept naked, without diapers, and he should be taken out into the sun.**



- If diapers are used, change them often After washing the diapers, rinse them in water with a little vinegar
- Use talc (talcum powder) only after the rash is gone
- Do not use plastic diapers

Cradle Cap (Seborrhea, Dandruff)

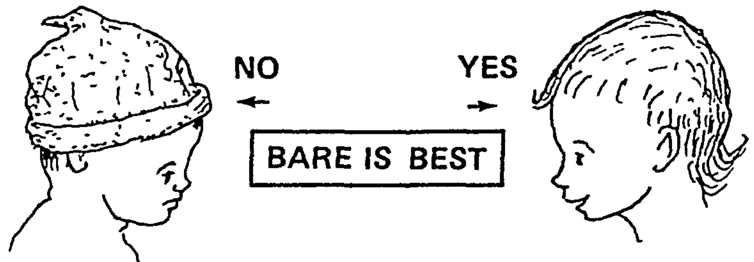


Cradle cap is an oily, yellow crust that forms on a baby's scalp The skin is often red and irritated Cradle cap usually results from not washing the baby's head often enough, or from keeping the head covered

Treatment:

- Wash the head daily If possible use a medicated soap (see p 409).
- Gently clean off all the dandruff and crust To loosen the scales and crust, first wrap the head with towels soaked in lukewarm water
- Keep the baby's head **uncovered,** open to the air and sunlight
- For home remedies, see page 20.

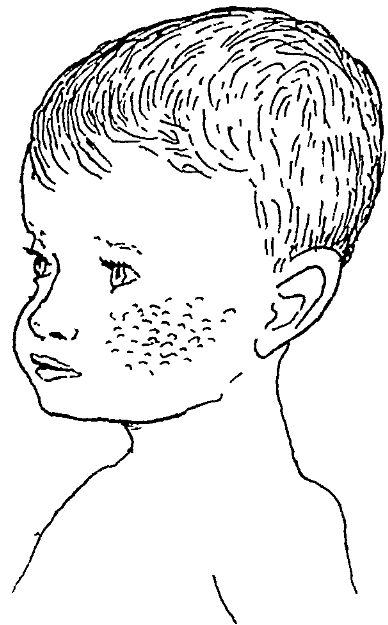
DO NOT COVER A BABY'S HEAD WITH A CAP OR CLOTH. KEEP THE HEAD UNCOVERED



- If there are signs of infection, treat as for impetigo (see p 243)

ECZEMA (RED PATCHES WITH LITTLE BLISTERS)

Signs:



- In small children a red patch or rash forms on the cheeks or sometimes on the arms and hands The rash consists of small sores or blisters that ooze or weep (burst and leak fluid).
- In older children and grown-ups eczema is usually drier and is most common behind the knees and on the inside of the elbows
- It does not start as an infection but is more like an allergic reaction

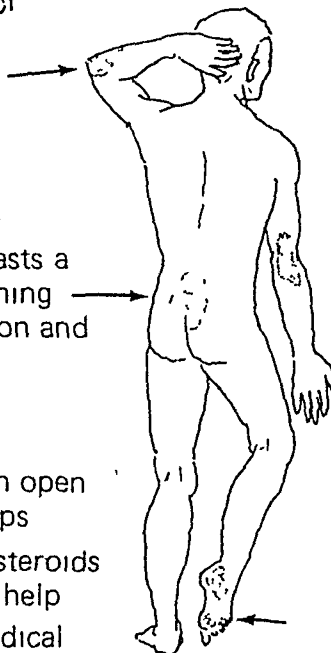
Treatment.

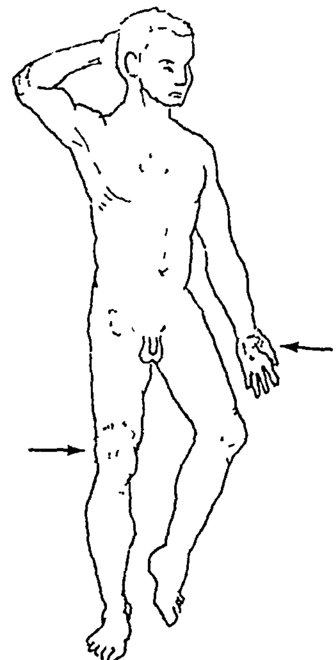
- Put cold compresses on the rash
- If signs of infection develop (p 101) treat as for impetigo (p 243)
- Let the sunlight fall on the patches
- In difficult cases, use a cortisone or cortico-steroid cream (see p 409)
- If the eczema patch is moist, apply linseed oil over it This prevents the skin from drying up and relieves itching Do not apply mustard oil

PSORIASIS

Signs:

- Thick, rough patches of reddish skin covered with whitish or silver-coloured scales The patches appear most commonly in the parts shown in the drawings
- The condition usually lasts a long time or keeps coming back It is not an infection and is not dangerous



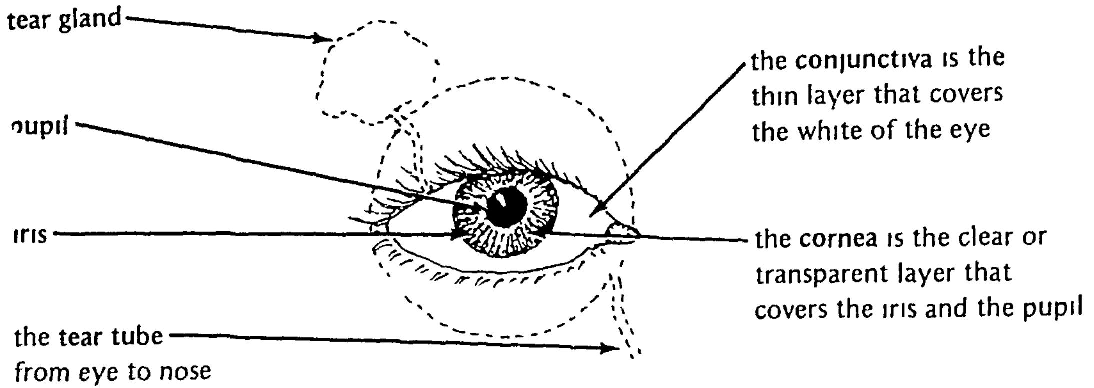


Treatment:

- Leaving the affected skin open to the sunlight often helps
- Ointments with cortico-steroids (p 409) or coal tar may help
- In severe cases, seek medical advice

CHAPTER 16

THE EYES



HOW TO TAKE GOOD CARE OF THE EYES

The eyes are delicate and need good care Infections of the eye spread very easily, if proper care is not taken

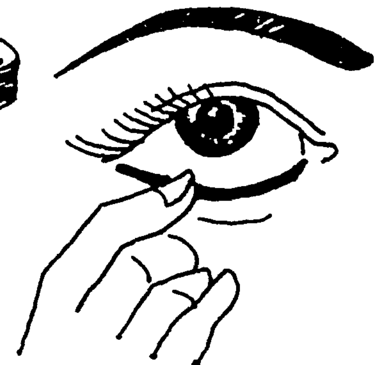


1 Keep eyes clean by washing them with clean water Washing eyes at bedtime is very good as it removes the dirt and dust collected throughout the day

2 Always use a clean cloth to wipe eyes Do not use saris, dhotis, or sleeves of clothes to wipe eyes These may cause serious infection in the eyes Trachoma (p 264) and conjunctivitis (p 263) spread this way

3 Each person should use a separate cloth towel or handkerchief for wiping eyes If one eye is already infected, use a separate clean cloth for each eye





4 When applying "kajal" or "surma", use a separate finger or applicator for each person Keep the tin closed after use, so that dust does not collect on it

5 Show any eye infection to a health worker Do not use medicines given by roadside medicine sellers These may not help and may even cause blindness



6 Eat dark green leafv vegetables like amaranth, spinach drumstick leaves and fruits like papaya and mangoes These contain vitamin A which is very good for eyes They prevent night blindness (p 271)

DANGER SIGNS

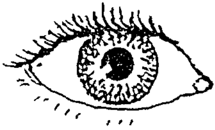
The eyes are delicate and need good care Get medical help fast when any of the following danger signs occurs

1 Any wound that cuts or ruptures (goes through) the eyeball

2 A painful, grayish spot on the cornea, with redness around the cornea (corneal ulcer)

3 Great pain inside the eye (possibly iritis or glaucoma)

4 Difference in the size of the pupils when there is pain in the eye or the head





A difference in the size of the pupils may come from brain damage, stroke, injury to the eye, glaucoma, or iritis (Some difference is normal in a few people)

5 If vision begins to fail in one or both eyes

6 Any eye infection or inflammation that does not get better after 5 or 6 days of treatment with an antibiotic eye ointment

INJURIES TO THE EYE

All injuries to the eyeball must be considered dangerous, for they may cause blindness

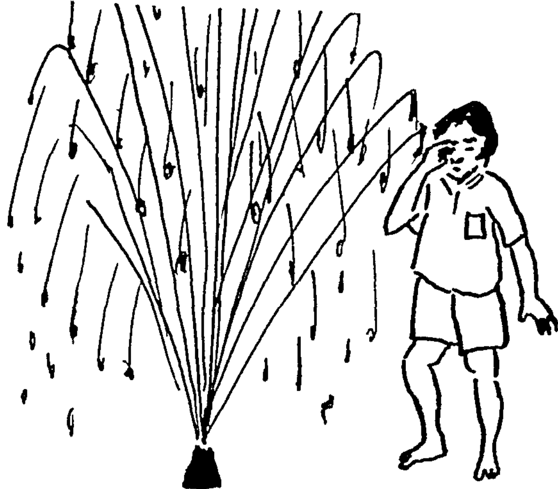
Even small cuts on the **cornea** (the transparent layer covering the pupil and iris) may get infected and harm the vision if not cared for correctly

If a wound to the eyeball is deep, this is especially dangerous

If a blunt injury (as with a fist) causes the eyeball to fill with blood, the eye is in danger (see p 270) Danger is especially great if pain suddenly gets much worse after a few days, for this is probably acute glaucoma (p 267)

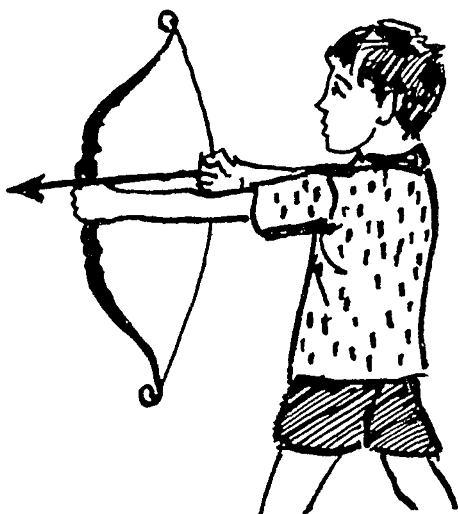
Injuries may be caused by:

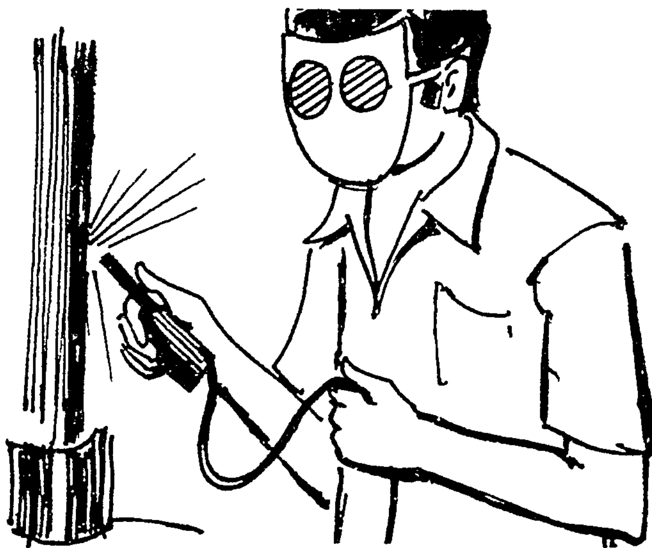
- fireworks used carelessly can injure the eye and cause permanent damage





- "gulli danda" which is a very popular game, can be dangerous, the "gulli" with its two sharp ends might damage the eye
- bows and arrows can cause permanent damage if handled carelessly

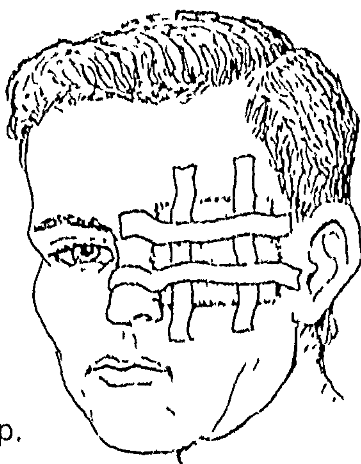




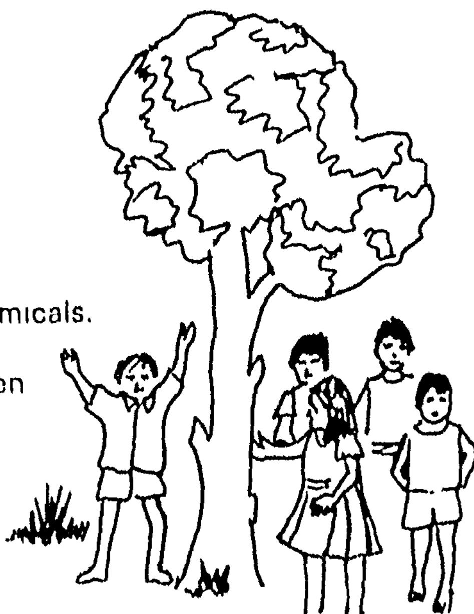
- sparks during welding can damage the eyes if the eyes are not protected with special dark glasses
- careless handling of chemicals can also damage the eyes
- blunt injuries as with a fist

Treatment.

- If the person still sees well with the injured eye, put an antibiotic eye ointment (p 413)



in the eye and cover it with a soft, thick bandage. If the eye is not better in a day or two, get medical help
- If the person cannot see well with the injured eye, if the wound is deep, or if there is blood inside the eye behind the cornea (p 270), cover the eye with a clean bandage and go for medical help at once.
- **Do not** try to remove thorns or splinters that are tightly stuck in the eyeball. Get medical help.

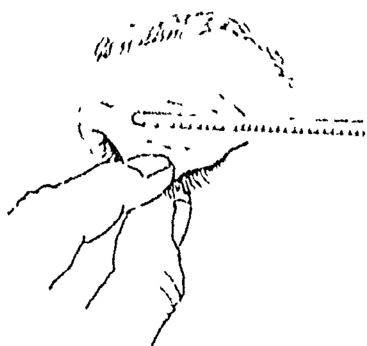


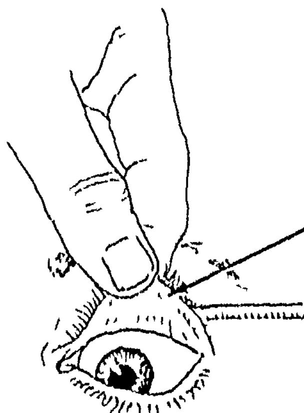
Prevention of injuries:
- Sit far from fire when cooking
- Use special dark glasses while welding.
- Wash hands carefully after handling chemicals.
- In places where children play, cut off the lower branches of trees so that the children may not injure their eyes.

HOW TO REMOVE A SPECK OF DIRT FROM THE EYE

Often you can get a bit of dirt or sand out of the eye by flooding the eye with clean water (p 58) or by using the corner of a clean cloth or the tip of some moist cotton.

If the particle of dirt is under the upper lid, look for it by turning the lid up over a thin stick





The particle is often found in the small groove near the edge of the lid. Remove it with the corner of a clean cloth.

If you cannot get the particle out easily, use an antibiotic eye ointment, cover the eye with a bandage, and go for medical help

RED, PAINFUL EYES—DIFFERENT CAUSES

Many different problems cause red, painful eyes This chart may help you find the cause

Cause	Signs
foreign matter (bit of dirt, etc) in the eye (p 262)	usually affects **one eye only;** redness and pain variable
burns or harmful liquids (p 58)	one or both eyes, redness and pain variable
sore eye' (conjunctivitis, p 263) hay fever (allergic conjunctivitis, p 202) trachoma (p 264) measles (p 358)	usually **both eyes** (may start or be worse in one) usually reddest at outer edge 'burning' pain, usually mild
acute glaucoma (p 267) iritis (p 266) scratch or ulcer on the cornea (p 269)	usually **one eye only;** reddest next to the cornea pain often great

The correct treatment of red, painful eyes often depends on finding out the cause Be sure to check carefully for signs of each possibility

SORE EYES (Conjunctivitis)

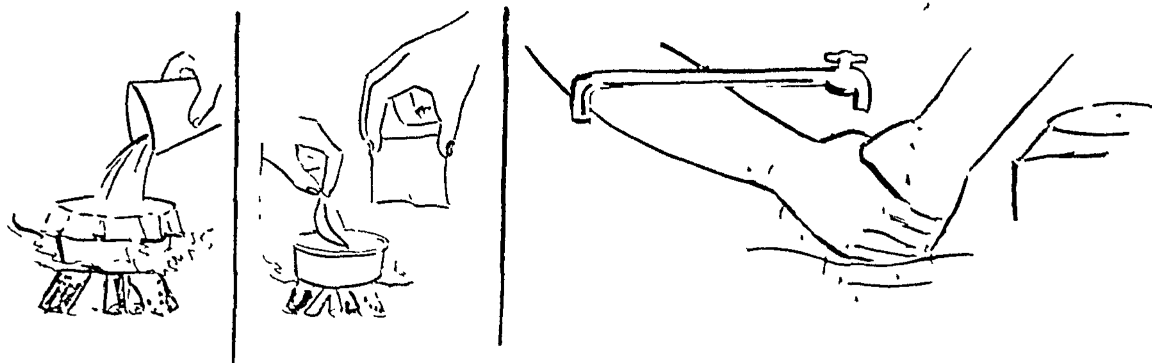
This infection causes redness, pus and mild burning in one or both eyes The eyes are usually reddest at the outer edge There is watering of the eyes The lids often stick together after sleep

Treatment:

To clean pus from the eyes:

Boil one glass of water with a pinch of salt, and then let it cool Boil a few pieces of clean cloth in a small cup or 'katori' separately,and let them cool

Ask the person to lie down with the normal eye near the ground Wash your hands with soap and water Take the boiled water in a cup and pour gently into the corner of the normal eye near the nose Collect the dirty water in a vessel kept below the eye



Close the eye Take a piece of boiled cloth and wipe the eye gently with one stroke, starting from near the nose towards the ear Do not use the same cloth again for the other eye Throw away the dirty water

Then turn the head so that the infected eye is near the ground Open the eyelids wide If they are stuck together, do not force them open Wet the eyes with the boiled salt water The pus will become loose and can easily be removed Then wash the eye in the same way as the normal eye Wipe with a separate piece of boiled cloth



Pull down the lower eyelid and put in 2 to 3 drops of 20% sulfacetamide eye drops Put the drops inside the lower eyelid like shown in the above illustration Putting them outside the eye does no good Put these drops every 10 minutes till the eye becomes normal Put the drops in the normal eye also once or twice a day

Prevention

Conjunctivitis is easily spread from one person to another if proper care is not taken To avoid spreading conjunctivitis

- do not let a child with 'sore eyes' play or sleep with others
- use a separate towel or handkerchief for each person, it is very important that others do not use the infected person's towel or handkerchief
- wash hands after touching eyes

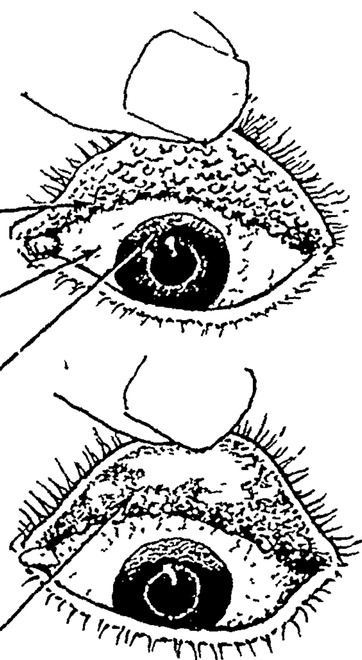
if you have conjunctivitis

- avoid bathing in canal or pond water
- avoid meeting others in crowded places
- if possible, try and use dark glasses

TRACHOMA

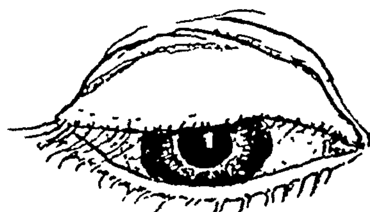
Trachoma is a chronic form of conjunctivitis that slowly gets worse It may last for months or many years If not treated early, it sometimes causes blindness It is spread by touch or by flies, and is most common where people live in poor, crowded conditions

Signs

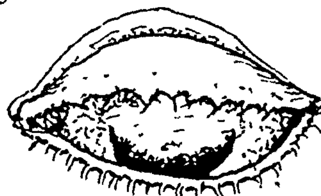


- Trachoma begins with red, watery eyes, like ordinary conjunctivitis
- After a month or more, small, pinkish gray lumps, called follicles, form inside the upper lids To see these, turn back the lid as shown on p 262
- The white of the eye is mildly inflamed
- If you look very carefully, or with a magnifying glass, you may see that the top edge of the cornea looks grayish, because it has many tiny new blood vessels in it *(pannus).*
- The combination of both follicles and pannus is almost certainly trachoma
- After several years, the follicles begin to disappear, leaving whitish scars

These scars make the eyelids thick and may keep them from opening all the way



Or they may pull the eyelashes down into the eye, scratching the cornea and causing blindness



Treatment of trachoma

Put 20% sulfacetamide eyedrops inside the eyes three times a day for a month If it does not become better, put tetracycline eye ointment inside the eyes three times a day for a month For complete cure, also take a sulfonamide or tetracycline by mouth for 10 days to 2 weeks (p 400, 402)

Prevention:

Early and complete treatment of trachoma helps prevent its spread to others All persons living with someone who has trachoma, especially children, should have their eyes examined often and if signs appear, they should be treated early Also, it is very important to follow the Guidelines of Cleanliness, explained earlier in this chapter

Cleanliness helps prevent trachoma.

INFECTED EYES IN NEWBORN BABIES (NEONATAL CONJUNCTIVITIS)



In the first 2 days of life, if a newborn baby's eyes get red, swell, and have a lot of pus in them, this is probably gonorrhea (p 280) The baby has picked up the disease from his mother at birth It must be treated **at once** to prevent the baby from going blind

Treatment

- Inject crystalline penicillin (p 398)
- Also make penicillin eyedrops Put a drop of this mixture in the baby's eyes every 10 minutes for an hour, then every hour for 6 hours, then every 2 or 3 hours for 3 days
- Before using drops, clean out pus as described on page 263.

Prevention

All babies' eyes should be protected against gonorrhea, especially the eyes of babies whose mothers may have gonorrhea or whose fathers have pain when passing urine (Mothers may have gonorrhea without knowing it)

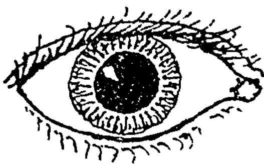
Put a drop of 1% silver nitrate solution **once only** in each eye at birth If you do not have silver nitrate drops, use a tetracycline eye ointment 3 times a day for 3 days

If a baby develops gonorrhea of the eyes, **both** parents should be treated for gonorrhea

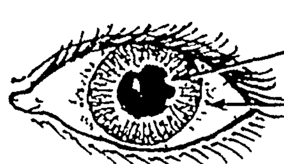
IRITIS (INFLAMMATION OF THE IRIS)

Signs

NORMAL EYE



EYE WITH IRITIS



Pain may begin suddenly or gradually The eye waters a lot It hurts more in bright light There is no pus as in conjunctivitis Vision is usually blurred

This is a medical emergency. Antibiotic ointments do not help **Get medical help.**

GLAUCOMA

This dangerous disease is the result of too much pressure in the eye It usually begins after the age of 40 and is a common cause of blindness **To prevent blindness, it is important to recognize the signs of glaucoma and get medical help fast.**

There are 2 forms of glaucoma

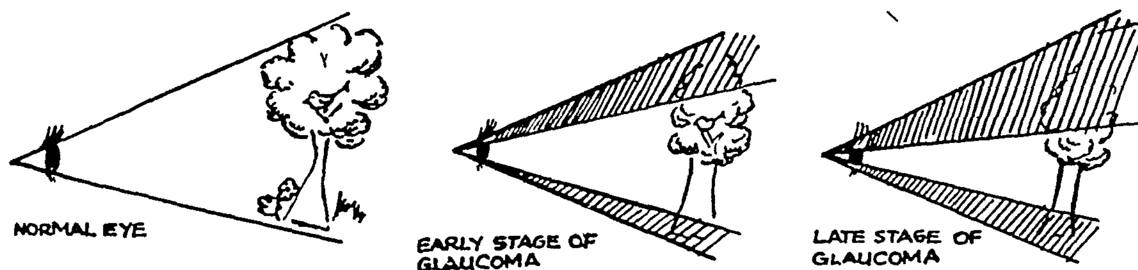
Acute glaucoma:

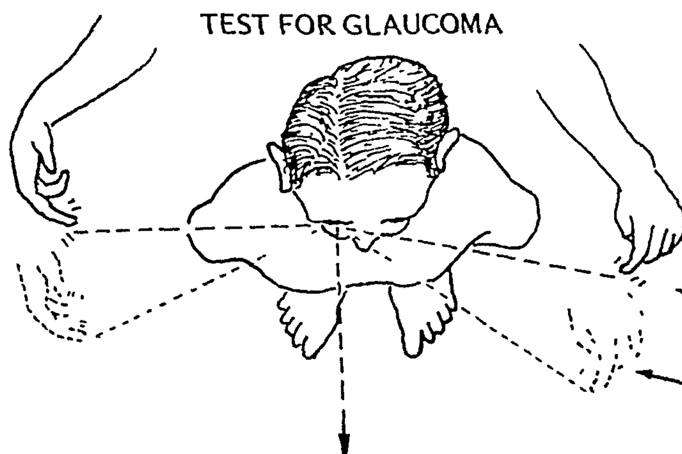
This starts suddenly with a headache or severe pain in the eye The eye becomes red, the vision blurred The eyeball feels hard to the touch, like a marble There may be vomiting The pupil of the bad eye is bigger than that of the good eye When a person with glaucoma looks at he light, he may see colored rings around the light This is a very serious sign

If not treated very soon, acute glaucoma will cause blindness within a few days. Surgery is often needed **Get medical help fast.**

Chronic glaucoma:

The pressure in the eye rises slowly Usually there is no pain Vision is lost slowly, starting from the side, and often the person does not notice the loss. Testing the side vision may help detect the disease.



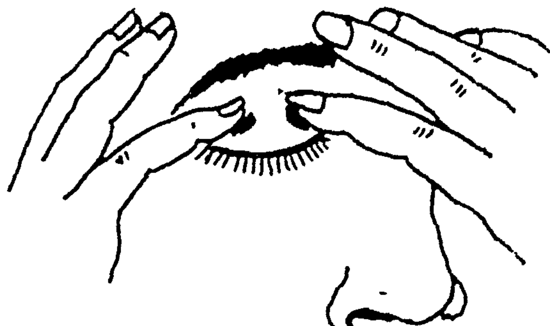


Have the person cover one eye, and with the other look at an object straight ahead of him Note when he can first see moving fingers coming from behind on each side of the head.

Normally fingers are first seen here.

In glaucoma, finger movement is first seen more toward the front.

Glaucoma can also be detected by testing the pressure in the eye



Ask the person to look toward his feet Place the index fingers of both your hands side by side on the eye Like this Keep one finger still and gently press upon the eye through the lid with the other finger If the pressure is high, the eye feels hard like a marble (to be certain, compare the pressure with your own eye)

If discovered early, treatment with special eyedrops (pilocarpine) may prevent blindness Dosage should be determined by a doctor or health worker who can measure the eye pressure periodically. Drops must be used for the rest of one's life.

Prevention:

Persons who are over 40 years old or have relatives with glaucoma should have their eye pressure checked once a year

INFECTION OF THE TEAR SAC (DACRYOCYSTITIS)

Signs

Redness, pain, and swelling beneath the eye, next to the nose The eye waters a lot A drop of pus may appear in the corner of the eye when the swelling is gently pressed.



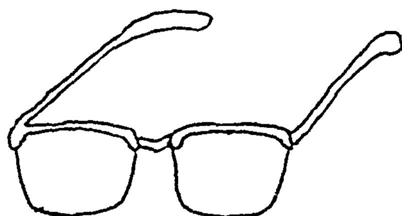
Treatment:

- Apply hot compresses.
- Put antibiotic eye drops or ointment in the eye.
- Take penicillin (p. 397).

TROUBLE SEEING CLEARLY

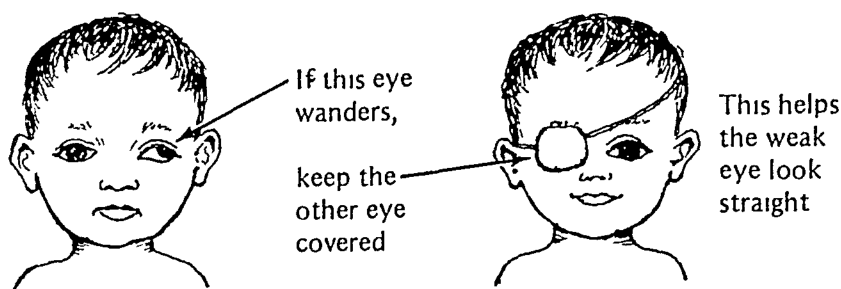
Children who have trouble seeing clearly or who get headaches or eye pain when they read may need glasses Have their eyes examined.

In older persons, it is normal that, with passing years, it becomes more difficult to see close things clearly Reading glasses often help. If possible, they should be carefully prescribed, so as to prevent eye strain and headache



CROSS-EYES AND WANDERING EYES

If a baby or young child has one eye that turns in (cross-eye) or out (wall-eye) or that sometimes looks the wrong way (wanders), try covering the **good** eye with a patch.



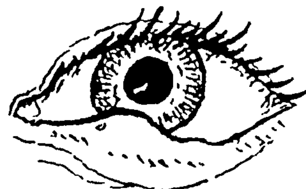
If possible, do this when the child is 6 months old Keep the good eye covered until the other eye stays straight For a 6-month-old baby this may only take a week or two. Older children take longer—up to a year for a 7-year-old, so for an older child discuss this with a health worker first

Early patching of the good eye often prevents a child from staying cross-eyed or wall-eyed for life

If one eye is always turned the wrong way, it is less likely that covering the good eye will help Special glasses sometimes help. The eyes can perhaps be straightened by surgery, but this does not usually help the person see better

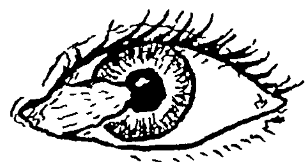
STYE (HORDEOLUM)

A red, swollen lump on the eyelid, usually near its edge To treat, apply warm, moist compresses with a little salt in the water Use of an antibiotic eye ointment 3 times a day will help prevent more sties from occurring



PTERYGIUM

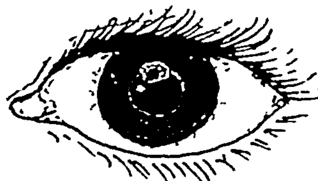
A fleshy thickening on the eye surface that slowly grows out from the edge of the eye and onto the cornea, caused in part by sunlight, wind, and dust Dark glasses may help calm irritation and slow the growth of a pterygium It should be removed by surgery before it reaches the pupil



Folk treatments using powdered shells do more harm that good

A SCRAPE, ULCER, OR SCAR ON THE CORNEA

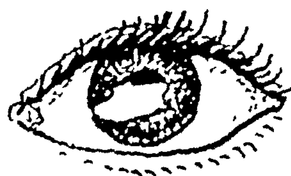
When the very thin, delicate surface of the cornea has been scraped, or damaged by infection, a painful **corneal ulcer** may result If you look hard in a good light, you may see



a grayish or less shiny patch on the surface of the cornea

If not well cared for, a corneal ulcer can cause blindness Apply antibiotic eye ointment, give penicillin, and cover the eye with a patch. **Seek medical help**

A **corneal scar** is a painless, white patch on the cornea. It may result from a corneal ulcer, burn, or other injury to the eye Surgery (corneal transplant) is the only treatment This is expensive and does not always give good results Surgery should only be done if the person is blind out can still see light.



BLEEDING IN THE WHITE OF THE EYE

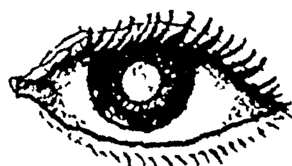
A painless, blood-red patch in the white part of the eye occasionally appears after lifting something heavy, coughing hard (as with whooping cough), or being hit on the eye The condition results from the bursting of a small blood vessel It is harmless and will slowly disappear without treatment



Small red patches are common on the eyes of newborn babies No treatment is needed

CATARACT

The lens of the eye, behind the pupil, becomes cloudy, making the pupil look gray or white when you shine a light into it. Cataract is common in older persons, but also occurs, rarely, in babies If a blind person with cataracts can still tell light from dark and notice motion, surgery may let him see again However, he will need strong glasses afterward, which take time to get used to Medicines do not help cataracts

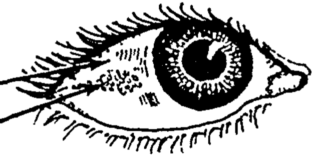


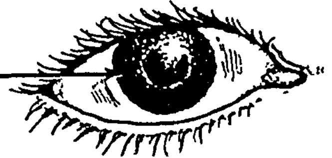
NIGHT BLINDNESS AND XEROSIS (VITAMIN A DEFICIENCY)

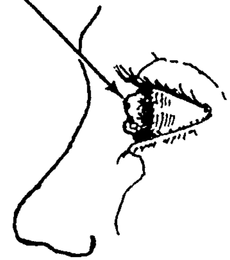


This eye disease is most common in children between 2 and 5 years of age It comes from not eating enough foods with vitamin A If not recognized and treated early, it can make the child blind.

Signs:





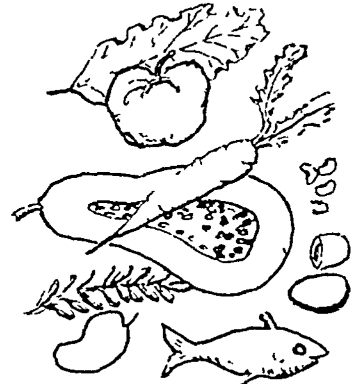


- At first, the child may have **night blindness.** He cannot see as well in the dark as other people can.
- Later, he develops **dry eyes** (xerosis) The white of the eyes loses its shine and begins to wrinkle
- Patches of little gray bubbles (Bitot's spots) may form in the eyes
- As the disease gets worse, the cornea also becomes dry and dull, and may develop little pits
- Then the cornea may quickly grow soft, bulge, or even burst Usually there is no pain. Blindness may result from infection, scarring, or other damage
- Xerosis often begins, or gets worse, when a child is sick with another illness like diarrhea, whooping cough, or tuberculosis **Examine the eyes of all sick and underweight children.**

Prevention and treatment.

Xerosis can easily be prevented by eating foods that contain vitamin A Do the following

- Breast feed the baby—up to 2 years, if possible.
- After the first 6 months, begin giving the child foods rich in vitamin A, such as dark green leafy vegetables and yellow or red fruits and vegetables Whole milk, eggs, liver, and kidneys are also rich in vitamin A
- If the child is not likely to get these foods, or if he is developing signs of night blindness or xerosis, give him a capsule of vitamin A once every 6 months (p.424) Do not give to babies under 6 months of age



- If the condition is already fairly severe, give the child a 200,000 unit capsule of vitamin A. (p 424) If the eyes are not well in a week, give another capsule

WARNING: Too much vitamin A is poisonous.

If the condition of the child's eyes is severe, with a dull, pitted, or bulging cornea, get medical help. The child's eyes should be bandaged, and he should receive vitamin A at once, preferably an injection of 100,000 units

Dark green or yellow vegetables prevent blindness in children.

SPOTS OR 'FLIES' BEFORE THE EYES (MUSCAE VOLITANTES)

Sometimes older persons complain of small moving spots when they look at a bright surface (wall, sky). The spots move when the eyes move and look like tiny flies

These spots are usually harmless and need no treatment. However, if they appear suddenly in large numbers and vision begins to fail from one side, this could be a medical emergency (detached retina) Medical help is needed at once

DOUBLE VISION



Seeing double can have many causes

If double vision comes suddenly, is chronic, or gradually gets worse, it is probably a sign of a serious problem Seek medical help.

If double vision occurs only from time to time, it may be a sign of weakness or exhaustion, perhaps from malnutrition.

Read Chapter 11 on good nutrition and try to eat as well as possible If sight does not improve, get medical help.

CHAPTER

17 THE TEETH, GUMS, AND MOUTH

CARE OF THE TEETH AND GUMS

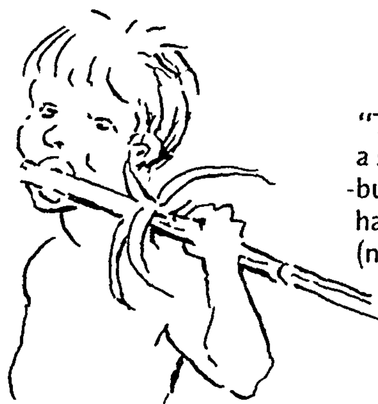
Taking good care of teeth and gums is important because

- Strong, healthy teeth are needed to chew and digest food well
- Painful cavities (holes in the teeth caused by decay) and sore gums can be prevented by good tooth care
- Decayed or rotten teeth caused by lack of cleanliness can lead to serious infections that may affect other parts of the body

To keep the teeth and gums healthy:

1 **Avoid sweets.** Eating many sweets (sugar cane, candy, pastry, tea or coffee with sugar, soft or fizzy drinks like colas, etc) rots the teeth quickly

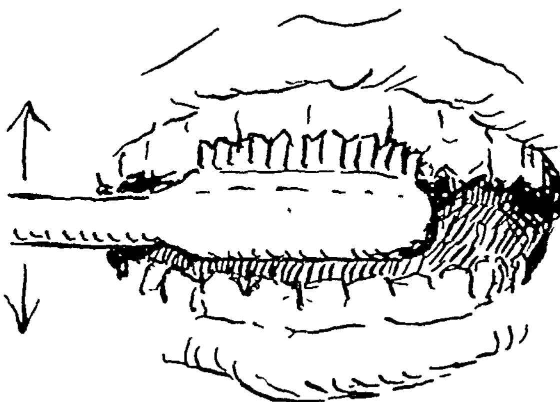
Do not accustom children to sweets or soft drinks if you want them to have good teeth.



"This child has a sweet tooth—-but soon he'll have no more" (no more teeth)

2 **Brush teeth well every day**—and always brush immediately after eating anything sweet Start brushing your children's teeth as the teeth appear Later, teach them to brush their teeth themselves, and watch to see that they do it right





Brush the teeth from top to bottom, like this,

never from side to side

Brush the front, back, top, and bottom of all teeth

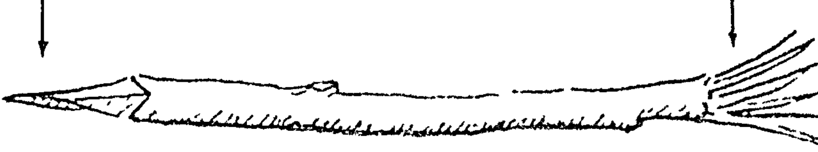
3 Putting **fluoride** in the drinking water or directly on teeth helps prevent cavities Some health programs put fluoride on children's teeth once or twice a year Be sure your children have this done if they have the chance

CAUTION. Fluoride is poisonous if more than a small amount is swallowed Use with care and keep it out of the reach of children

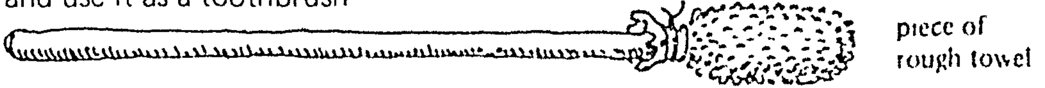
4 Eat foods like amla, orange, lemon, guava, sprouted gram, tomato These contain the vitamins which are necessary to keep the gums healthy Ragi and bajra contain calcium which makes teeth strong If possible, include some milk in your diet

IF YOU DO NOT HAVE A TOOTHBRUSH:

Use a twig of a neem tree like this

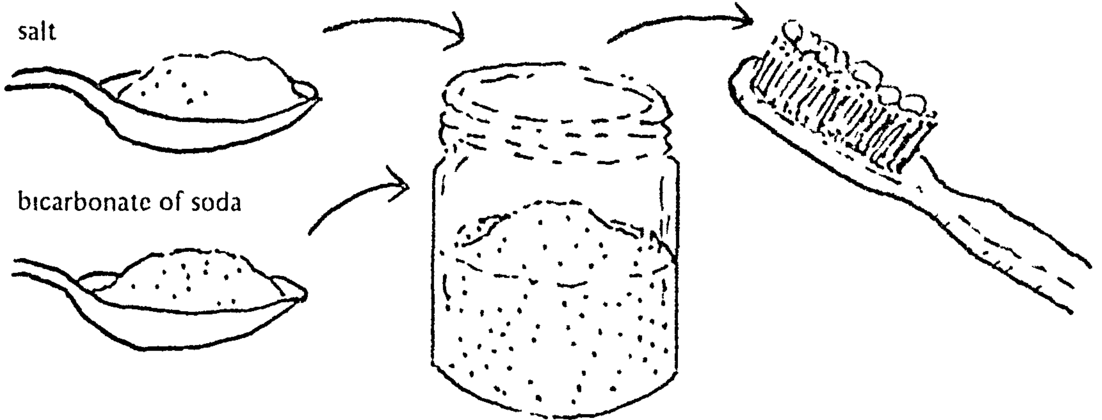


Or tie a piece of rough towel around the end of a stick, and use it as a toothbrush



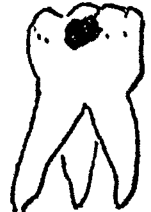
IF YOU DO NOT HAVE TOOTHPASTE

Make a tooth powder by mixing salt and bicarbonate of soda in equal amounts To make it stick, wet the brush before putting it in the powder



Salt with soda works as well as toothpaste for cleaning teeth If you do not have bicarbonate of soda, just use plain salt

IF A TOOTH ALREADY HAS A CAVITY



To keep it from hurting as much or forming an abscess, avoid sweet things and brush well after every meal

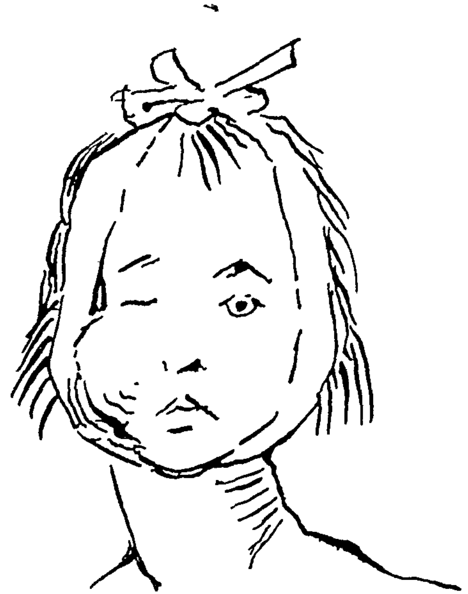
If possible, see a dental worker right away If you go soon enough, he can often clean and fill the tooth so it will last for many years

When you have a tooth with a cavity, do not wait until it hurts a lot. Have it filled by a dental worker right away.

TOOTHACHES AND ABSCESSES

To calm the pain

- Clean the hole in the tooth wall, removing all food particles Then rinse the mouth with warm salt water
- Take a pain reliever like aspirin
- Chewing cloves may help
- If the tooth infection is severe (swelling, pus, large tender lymph nodes), use an antibiotic tablets of penicillin (p 397) or sulfonamide (p 402), or tetracycline capsules (p 400)



A toothache results when a cavity becomes infected

An *abscess* results when the infection reaches the tip of a root and forms a pocket of pus

If the pain does not go away or keeps coming back, the tooth should probably be pulled

Treat abscesses right away— before the infection spreads to other parts of the body

PYORRHEA, A DISEASE OF THE GUMS

Inflamed (red and swollen), painful gums that bleed easily are caused by

1 Not cleaning the teeth and gums well or often enough

2 Not eating enough nutritious foods (malnutrition)



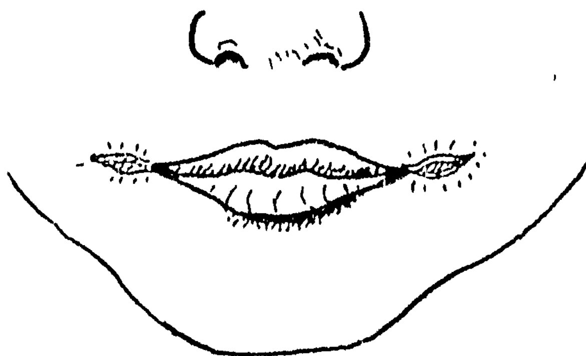
Prevention and treatment·

- Brush teeth well after each meal, removing food that sticks between the teeth Also, if possible, scrape off the dark yellow crust (tartar) that forms where the teeth meet the gums Then rinse the mouth with warm salt water
- Eat protective foods rich in vitamins, especially eggs, meat, beans, dark green vegetables, and fruits like oranges, lemons, and tomatoes (see Chapter 11) Avoid sweet, sticky, and stringy foods that get stuck between the teeth

Note: Sometimes medicines for fits (epilepsy) cause swelling and unhealthy growth of the gums (see p 422) If this happens, consult a health worker and consider using a different medicine

SORES OR CRACKS AT THE CORNERS OF THE MOUTH

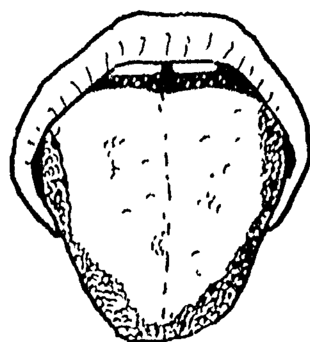
Narrow sores at the corners of children's mouths are often a sign of malnutrition



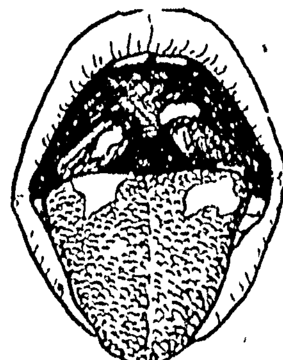
Children with these sores should eat foods rich in vitamins and proteins like milk, meat, fish, nuts, eggs, fruits, and green vegetables

WHITE PATCHES OR SPOTS IN THE MOUTH

The tongue is coated with white 'fur'. Many illnesses cause a white or yellowish coating on the tongue and roof of the mouth This is common when there is a fever Although this coating is not serious, it helps to rinse the mouth with a solution of warm water with salt and bicarbonate of soda several times a day.

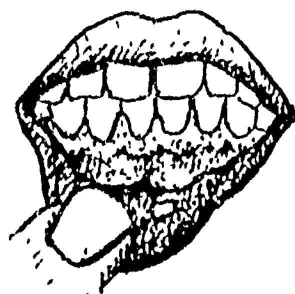


Thrush: small white patches on the inside of the mouth and tongue that look like milk curds stuck to raw meat. They are caused by a fungus or yeast infection called moniliasis (see p. 286). Thrush is common in newborn babies and in persons using certain antibiotics, especially tetracycline or ampicillin.



Unless it is very important to keep taking the antibiotic, stop taking it Paint the inside of the mouth with gentian violet. Chewing garlic or eating yogurt may also help In severe cases, use nystatin (p. 408)

Aphthous stomatitis : Small, white painful spots on or inside the lips and mouth. The exact cause is not known but often appear during stress. Sometimes they appear before menses. They last for a few days and go away by themselves.



Rinse the mouth with salt water or put a little hydrogen peroxide or corticosteroid ointment (p 409) on the sores. Antibiotics do not help.

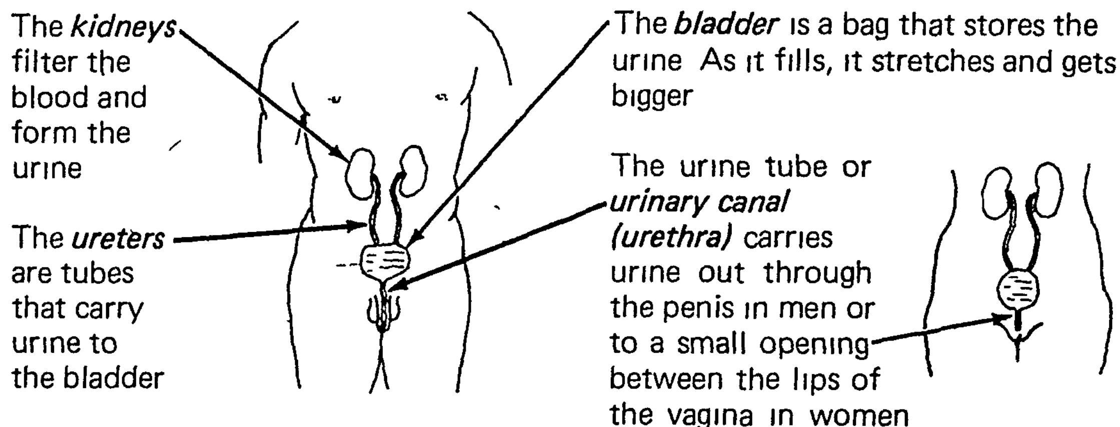
Cold sores are small white spots which appear on the outside of the mouth or lips. They often appear when a person has fever or cold They last for a few days and go away.

Cancer: Chronic sores on the tongue or inside the mouth which do not heal with simple treatment or with nutritious foods may be signs of cancer. These are especially common in people who chew betel leaves, **pan** with tobacco. In such cases consult a health worker.

CHAPTER

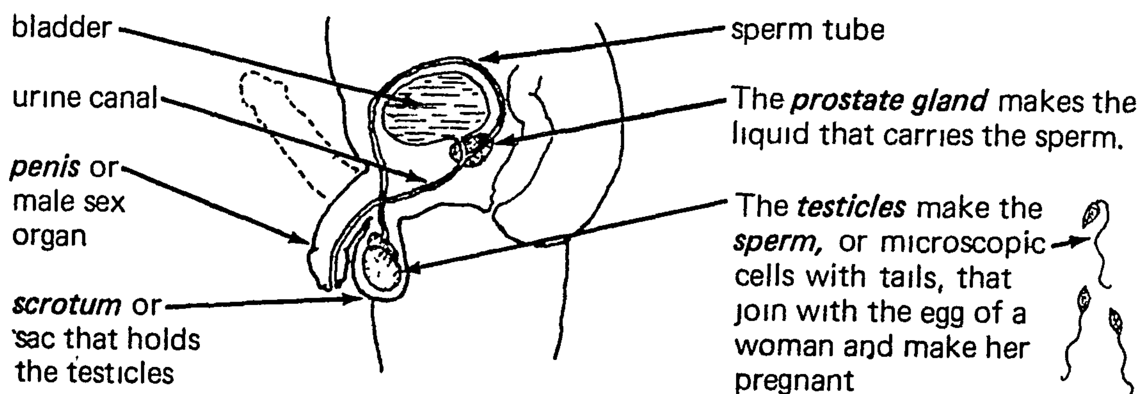
18 THE URINARY SYSTEM AND THE GENITALS

The urinary system or *tract* serves the body by removing waste material from the blood and getting rid of it in the form of *urine:*

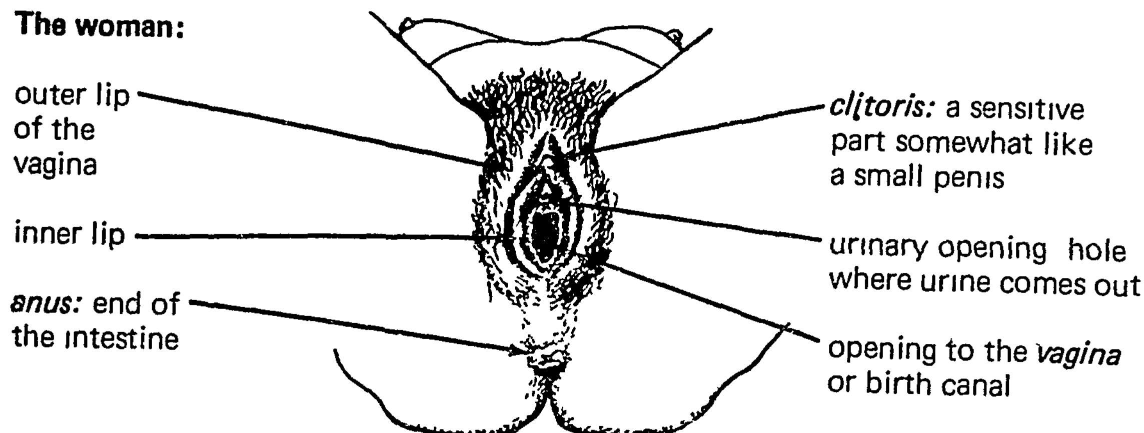


The genitals are the sex organs

The man:



The woman:



PROBLEMS OF THE URINARY TRACT

There are many different disorders of the urinary tract. They are not always easy to tell apart Some are not serious, while others can be very dangerous A dangerous illness may begin with only mild symptoms It is often difficult to identify these disorders correctly by simply using a book like this one Special knowledge and tests may be needed When possible, seek advice from a health worker

Common **problems with urinating** include

1 Urinary tract infections that are not spread by sexual contact.

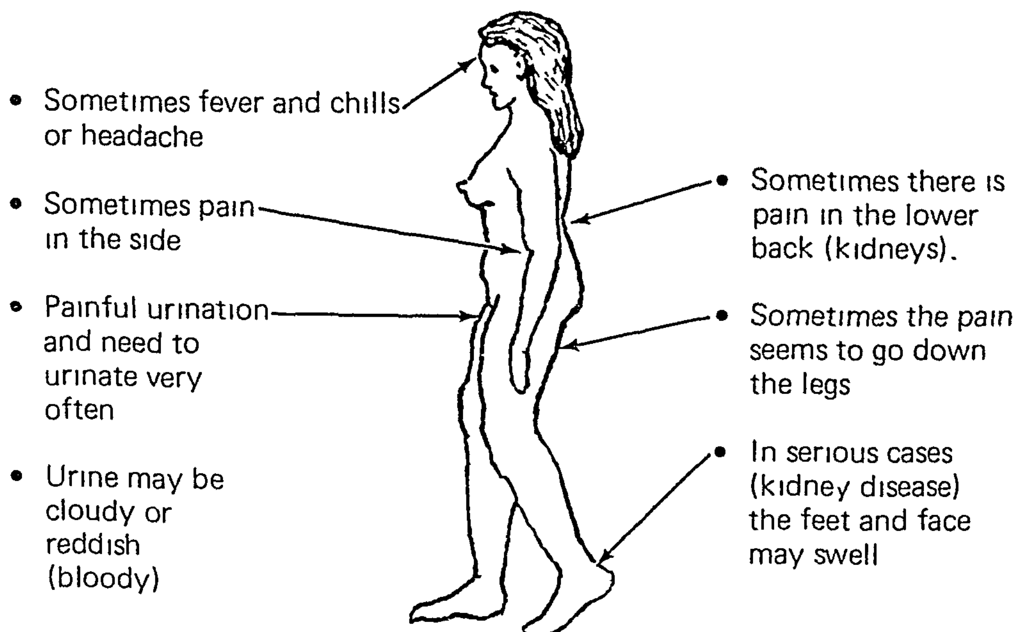
2 Kidney stones

3 Prostate trouble (difficulty passing urine caused by an enlarged gland, most common in older men)

4 Gonorrhea (difficulty or pain in passing urine, an infectious disease, spread by sexual contact).

Urinary Tract Infections that Are Not Spread by Sexual Contact

Signs:



Many women suffer from minor urinary infections In men they are much less common Sometimes the only symptoms are **painful urination** and the **need to urinate often.** Other common signs are **blood in the urine** and **pain in the lower**

belly. Pain in the mid or lower back, often spreading around the sides below the ribs, with fever, indicates a more serious problem

Treatment·



- **Drink a lot of water.** Many minor urinary infections can be cured by simply drinking a lot of water, without the need for medicine

  (But if the person cannot urinate or has swelling of the hands and face, he should not drink much water)

- If the person does not get better by drinking a lot of water, or if he has a fever, he should take pills of a sulfonamide (p 402), sulfisoxazole with potassium hydroxide (p 402) or methenamine mandelate (p 403), or trimethaprim with phenazopyridine hydrochloride (p 403) If these do not help, have tetracycline Pay careful *attention to dosage and precautions* To completely control the infections, it may be necessary to take the medicines for 10 days or more It is very important to **continue to drink a lot of water** when taking these medicine, specially with the sulfonamides
- If the person does not get better quickly, seek medical help

Kidney or Bladder Stones:

Signs:

- The first sign is often sharp or severe pain in the lower back, the side, or the lower belly, or in the base of the penis in men
- Sometimes the urinary tube is blocked so the person has difficulty passing urine—or cannot pass any Or drops of blood may come out when the person begins to urinate
- There may be a urinary infection at the same time

Treatment

- The same as for the urinary infections described above
- Also give aspirin or another painkiller and an antispasmodic like Baralgan (see p 416)
- Try to urinate while lying down This sometimes allows a stone in the bladder to roll back and free the opening to the urinary tube.
- In severe cases get medical help Sometimes surgery is needed.

Enlarged Prostate Gland:

This condition is most common in older men It is caused by a swelling of the prostate gland, which is between the bladder and the urinary tube (urethra)

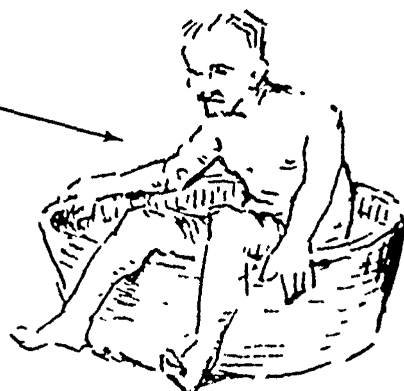
- The person has difficulty in passing urine and sometimes in having a bowel movement The urine may only dribble or drip or become blocked

completely. Sometimes the man is not able to urinate for days.

- If he has a fever, this is a sign that infection is also present.
- the person passes urine more often, especially at night.
- pain in the lower abdomen

Treatment for an enlarged prostate:

- If the person cannot urinate, he should try sitting in a tub of hot water, like this If this does not work, a catheter may be needed (p 284)
- If he has a fever, use an antibiotic such as ampicillin (p 399) or tetracycline (p 400)
- Get medical help Serious or chronic cases may require surgery

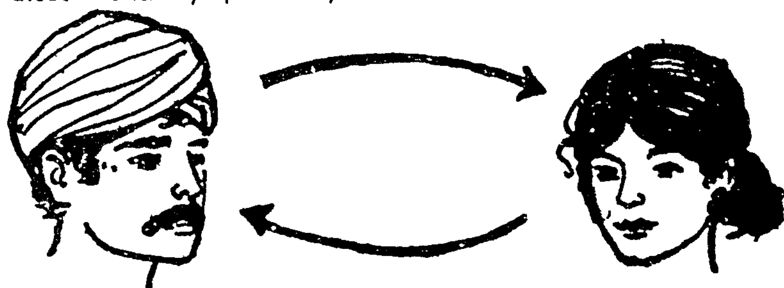


Note: It is important to distinguish between prostate trouble and gonorrhea, which can also make it hard to pass urine In older men it is more likely to be an enlarged prostate Also, if a person with gonorrhea, strains, he can pass urine But a person with an enlarged prostate gland cannot pass urine if he strains However, a younger man—especially one who has had sexual contact with an infected person (within the last few days or weeks)—probably has gonorrhea

DISEASES SPREAD BY SEXUAL CONTACT (VENEREAL DISEASES)

Gonorrhoea (VD)

This is a disease usually spread by sexual contact (a venereal disease)



Signs:

In the man:

- Pain with urination
- Drops of pus from the penis
- Difficulty urinating (sometimes he cannot pass any urine at all)

After months or years:

- Hard, tender swelling in one knee or other joint, or many other problems

In the woman:

- **At first, there are often no symptoms** (she may feel a little pain when urinating or have a slight vaginal discharge)
- If a pregnant woman with gonorrhea is not treated before giving birth, the infection may get in the baby's eyes and make him blind (see p **266**)

After months or years:

- Pain in the lower belly (pelvic

inflammatory disease, p 287).
- Menstrual problems
- She may become *sterile.*
- Other problems

In a man, the first signs of gonorrhea begin 2 to 5 days (or up to 3 weeks or more) after sexual contact with an infected person In a woman, years may pass before any signs show up But even though she does not show any signs, **she can give the disease to someone else,** starting a few days after she becomes infected

Treatment of gonorrhea:

- Inject procaine penicillin . Inject half the dose in each buttock (see p. 399). It is important to use procaine pencillin Do not use crystalline or benzathine penicillin If you can get probenecid, give 1 gm half an hour before you inject the penicillin If you do not have penicillin (or if it does not seem to work), use tetracycline (p 400)
- If the person cannot urinate, he should try doing so while sitting in a tub of hot water (see p 280) If he still cannot urinate, the bladder should be drained using a *catheter* (see p 284) Get medical help
- If a man has had sex with his wife after being exposed to gonorrhea, she should be treated also. Even if the wife shows no signs of the disease, she probably has it If she is not treated at the same time, she will give the disease right back to her husband again
- The eyes of all babies should be protected from gonorrhea and possible blindness by using 1 percent silver nitrate drops at birth (see p. 414)
- Everyone who has had sex with a person known to have gonorrhea should also be treated, especially wives of men who are infected

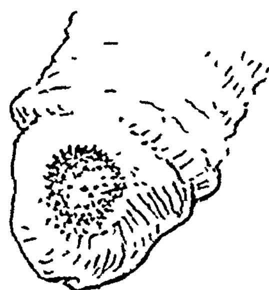
CAUTION: A person with gonorrhea may also have syphilis, without knowing it. Sometimes it is best to go ahead and give the full treatment for syphilis, because the gonorrhea treatment may prevent the first syphilis symptoms, **but may not cure the disease.**

For prevention of gonorrhea and other venereal disease, see p 283

Syphilis:

Syphilis is a common and dangerous disease that is spread from person to person through sexual contact.

Signs:

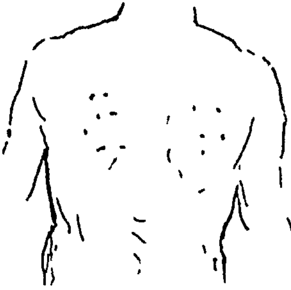


- The first sign is usually a sore, called a *chancre.* It appears 2 to 5 weeks after sexual contact with a person who has syphilis The chancre may look like a pimple, a blister, or an open sore It usually appears in the genital area of the man or woman (or less commonly on the lips, fingers, anus, or mouth). This sore is full of germs, which are easily passed on to

another person **The sore is usually painless, and if it is inside the vagina, a woman may not know she has it —but she can easily infect other persons.**

- The sore only lasts a few days and then goes away by itself without treatment **But the disease continues spreading though the body.**
- Weeks or months later, there may be sore throat, mild fever, mouth sores, or swollen joints Or any of these signs may appear on the skin

a painful rash or 'pimples' all over the body



an itchy rash on the hands or feet



All of these signs usually go away by themselves, and then the person often thinks he is well—but the disease continues **Without adequate treatment, syphilis can invade any part of the body, causing heart disease, paralysis, insanity, and many other problems.**

CAUTION: If any strange rash or skin condition shows up days or weeks after a pimple or sore appears on the genitals, it may be syphilis. If unsure, get medical advice

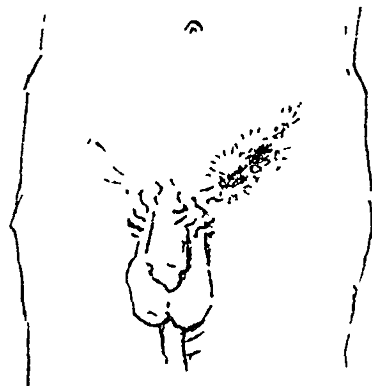
Treatment for syphilis:

- Inject procaine penicillin,(see p 399) **To cure syphilis completely, it is very important to give the full treatment.** Persons who are allergic to penicillin or who do not get better with it can take tetracycline,
- Injection PAM (see p398) is effective if a person has both syphilis and gonorrhea
- If there is any chance that someone has syphilis, he should immediately see a health worker Special blood tests may be needed If tests cannot be made, the person should be treated for syphilis in any case.
- Everyone who has had sexual contact with a person known to have syphilis should also be treated, especially husbands or wives of those known to be infected.

CAUTION: Do not take home remedies, or medicines from local or untrained healers for syphilis These medicines do no good The signs of syphilis often go away on their own But the germs do not die Without proper treatment, the disease will come back in a more serious form

To prevent syphilis, see the next page

Bubos: Bursting Lymph Nodes in the Groin (Lymphogranuloma Venereum)



Signs:

- **In a man:** Large, dark lumps in the groin that open to drain pus, scar up, and open again
- **In a woman:** Lymph nodes similar to those in the man Or painful, oozing sores in the anus

Treatment.

- See a health worker
- Give adults tetracycline, (see p 400)
- Avoid all sexual contact until the sores are completely healed

How to prevent spreading venereal disease to other people:

1 **Get treatment right away:** It is very important that all persons infected with this kind of illness get treatment at once so that they do not infect other people Do not have sex with anyone until 3 days after treatment is finished.

Note: In case of syphilis, regular check up by a health worker is necessary for at least two years after all the signs of the disease have gone

2 **Tell other people if they need treatment:** When a person finds out that he or she has any form of venereal disease (VD), he should tell everyone with whom he has had sex, so that they can get treatment, too A man is especially obligated to tell women he has slept with, because without knowing that she has it a woman can pass the disease on to other people, her babies may become blind, and in time she may become sterile or very ill herself

3 A man and his woman should both **take treatment together.** If one of them does not take treatment, he or she can pass the disease back to the other person

4 **Be careful with whom you have sex:** Someone who has sex with many different persons is more likely to catch these diseases Brothels or whorehouses are especially dangerous Do not go to them! Do not be tempted when you go to the cities.

5 Always wash genitals after having sex A man should use condoms during sex This may help (but does not always) prevent VD

6 **Help others:** Insist that friends who may have VD get treatment at once, and that they avoid all sexual contact until they are cured

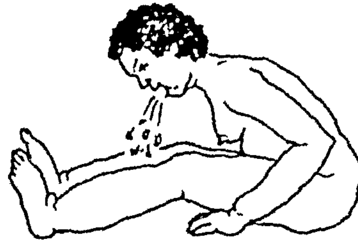
HOW AND WHEN TO USE A CATHETER (A RUBBER TUBE TO DRAIN URINE FROM THE BLADDER)

When and when not to use a catheter:

- **Never use a catheter unless it is absolutely necessary** and it is impossible to get medical help in time. Even careful use of a catheter sometimes causes dangerous infection or damages the urinary canal.
- If any urine is coming out at all, do not use the catheter.
- If the person cannot urinate, first have him try to urinate while sitting in a tub of warm water (p 280).
- If the person has a very full, painful bladder and cannot urinate, or if he begins to show signs of poisoning from urine, then and only then use a catheter

Signs of urine poisoning (uremia):

- The breath smells like urine
- The feet and face swell
- Vomiting , distress, confusion.



Note: People who have suffered from difficulty urinating, enlarged prostate, or kidney stones should buy a catheter and keep it handy in case of emergency.

HOW TO USE A CATHETER

1. Boil the catheter for 15 minutes



2. Wash the penis and the whole area around it well with soap and warm water.



3. Wash your hands with boiled water and soap.



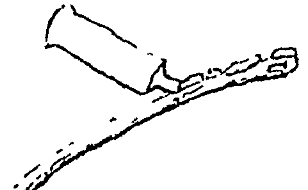
4. Cover the area around the penis with a very clean cloth, sterilized if possible.

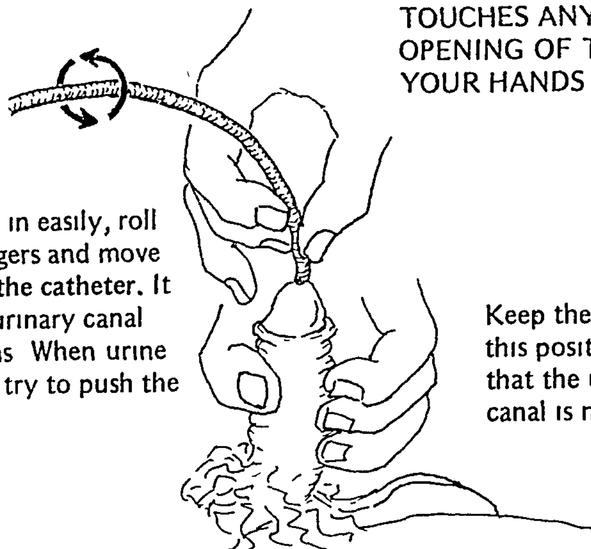


5. Wash your hands with alcohol (If you have sterile gloves, use them)



6. Lubricate the catheter with antibiotic ointment or a sterile lubricant





Important:

If the person shows signs of urine poisoning, do not let the urine come out all at once instead, let it out very slowly, little by little over an hour or 2

Women sometimes have trouble urinating after giving birth and need a catheter put in The method is similar, but the woman's urinary tube is much shorter.

PROBLEMS OF WOMEN

Vaginal Discharge (a mucus or pus-like stuff that comes from the vagina):

All women normally have a small amount of vaginal discharge, which is clear, milky, or slightly yellow If there is no itching or bad smell, there is probably no problem

But many women, especially during pregnancy, suffer from a discharge often with itching in the vagina This discharge may be caused by various infections Most of them are bothersome, but not dangerous

1 **A thin and foamy, greenish-yellow or whitish, foul-smelling discharge with itching.** This is probably an infection of **Trichomonas.** It burns to urinate Sometimes the genitals hurt or are swollen

Treatment:

- It is very important to keep the genitals clean

- A vaginal wash, or *douche,* with warm water and vinegar will help



The woman should douche 1 to 3 times a day until she gets better If there is no vinegar, use lemon juice in water

- In serious cases use **vaginal inserts** that contain metronidazole or other medication **(S V C Pessaries)** for Trichomonas (see p 409) In very serious cases take metronidazole by mouth Take 200 mg 3 times a day for 10 days For precautions and instructions, (see p.407)

Important:

It is likely that the husband of a woman with Trichomonas has the infection too, though he does not feel anything (Some men with Trichomonas have a burning feeling when urinating) If the woman gets a severe infection again after she has been treated, both she and her husband should take the same treatment, starting on the same day Only take metronidazole by mouth if the infection is very severe The husband should use condoms during sex

2 **White discharge that looks like cottage cheese or buttermilk, and smells like mold, mildew, or baking bread.** This could be a yeast infection (moniliasis, 'thrush'). Itching may be severe. The lips of the vagina often look bright red and hurt. It burns to urinate Thrush is especially common in pregnant women or in those who are sick, diabetic (p 149) or have been taking antibiotics, or birth control pills

Treatment:

Get urine checked for diabetes (P 149)

Douche with vinegar-water or dilute gentian violet, 2 parts gentian violet to 100 parts water (2 teaspoons to a half liter) Or use nystatin vaginal tablets or any other vaginal inserts for moniliasis For dosage and instructions see page 408 Putting yogurt in the vagina is said to be a useful home remedy to help control yeast infections

WARNING Never use antibiotics against this kind of infection Antibiotics make yeast infections worse

3 **Thick, milky discharge with a rancid smell.** This could be an infection caused by a bacteria called **hemophilus.** Special tests may be needed to tell this from a trichomonas infection Douche with vinegar-water. Also use a vaginal tablet (insert) of sulfathiazole twice a day for 2 weeks (see p 408)

4 **Watery, brown, or gray discharge, streaked with blood; bad smell.** These are signs of more serious infections, or possibly cancer (p 326) If there is fever, use an antibiotic (ampicillin if possible—see p 399). **Get medical help right away.**

Important: If any discharge lasts a long time, or does not get better with treatment, see a health worker

How a Woman Can Avoid Many Infections:

1 Keep the genital area clean When you bathe, wash well with mild soap.

2 Urinate after sexual contact This helps prevent urinary infections (but will not prevent pregnancy)

3 Be sure to clean yourself carefully after each bowel movement

Pain or Discomfort in the Lower Central Part of a Woman's Belly

This can come from many different causes, which are discussed in different parts of this book. The following list, which includes a few key questions, will help you know where to look.

Possible causes of pain in the lower belly are

1 **Menstrual discomfort** (p 291) Is it worst shortly before or during the period?

2 **A bladder infection** (p 279) One of the most common low mid-belly pains Is urination very frequent or painful?

3 **A yeast infection** (p. 286) **or Trichomonas** (p 286) These sometimes get into the womb or tubes to the ovaries Is there a vaginal discharge? What is it like?

4 **Pelvic inflammatory disease.** This is often a late stage of gonorrhea (p 280) It may be acute, with symptoms similar to those of peritonitis or



appendicitis (p108), or chronic, with continual or intermittent pain or discomfort in the lower belly, often with periods of chills and fevers

5 ***Problems that are related to a lump or mass in the lower part of the belly.*** These are discussed briefly on page 326 and include **ovarian cyst, ectopic pregnancy** (when the baby begins to develop outside the womb), and **cancer.**

6 **An infection or other problem of the gut or rectum** (p 198) Is the pain related to eating or to bowel movements?

Some of the above problems are not serious Others are dangerous. They are not always easy to tell apart Special tests or examinations may be needed.

If you are unsure what is causing the pain, or if it does not get better soon, seek medical help.

MEN AND WOMEN WHO ARE NOT ABLE TO HAVE CHILDREN (INFERTILITY)

Sometimes a man and woman try to have children but the woman does not become pregnant Either the man or woman may be infertile (unable to bring about pregnancy) Often nothing can be done to make the person fertile, but sometimes something can be done, depending on the cause

COMMON CAUSES OF INFERTILITY

1 **Sterility** The person's body is such that he or she can never have children Some men and women are born sterile

2 **Weaknesses or a nutritional lack.** In some women severe anemia, poor nutrition, or lack of iodine may lower the chance of becoming pregnant Or it may cause the unformed baby (embryo) to die perhaps before the mother even knows she is pregnant (see Miscarriage, p 327)

A woman who is not able to become pregnant, or has had only miscarriages, should get enough nutritious food, use iodized salt, and if she is severely anemic take iron pills (p 424) These may increase her chance of becoming pregnant and having a healthy baby

3 **Chronic infection,** especially pelvic inflammatory disease (see Gonorrhea, p 287) is a common cause of infertility in women Treatment may help—if the disease has not gone too far Prevention and early treatment of gonorrhea mean fewer sterile women

4 **Men** are sometimes unable to make their women pregnant because they have fewer sperms than is normal It may help for the man to wait, without having sex,

for several days before his woman enters her 'fertile days' each month midway between her last menstrual period and the next (see Rhythm Method and Mucus Method, p 339 and 340) This way he will give her his full amount of sperm when they have sex together on days when she is able to become pregnant

Warning Hormones and other medicines commonly given to men or women who cannot have babies almost never do any good, especially in men Home remedies and magic cures are not likely to help either Be careful not to waste your money for things that will not help

If you are a woman and are not able to have a baby, there are still many possibilities for leading a happy and worthwhile life



- Perhaps you can arrange to care for or adopt children who are orphans or need a home Many couples come to love such children just as if they were their own
- Perhaps you can become a health worker or help your community in other ways The love you would give to your children, you can give to others, and all will benefit
- You may live in a village where people look with shame on a woman who cannot have children Perhaps you and others can form a group to help those who have special needs and to show that having babies is not the only thing that makes a woman worthwhile

CHAPTER 19

INFORMATION FOR MOTHERS AND MIDWIVES

THE MENSTRUAL PERIOD (MONTHLY BLEEDING IN WOMEN)

Most girls have their first 'period' or monthly bleeding between the ages of 11 and 16 This means that they are now old enough to become pregnant

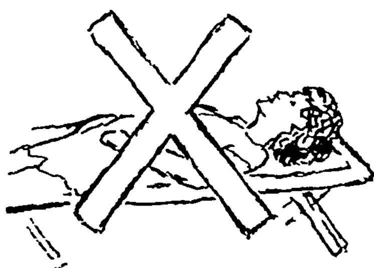
The normal period comes once every 28 days or so, and lasts 3 to 6 days However, this varies a lot in different women

During the period—as at all times—a woman should take care to keep clean, get enough sleep, and eat a well-balanced diet She can eat everything she normally eats and can continue to do her usual work It is not harmful to have sex during the menstrual period

Irregular or painful periods are common in adolescent (teenage) girls This does not usually mean there is anything wrong

If your menstrual period is painful:

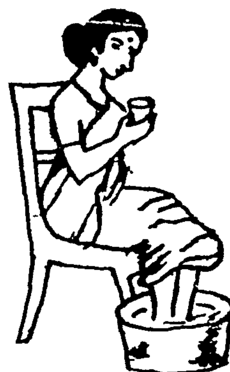
There is no need for you to stay in bed. In fact, lying quietly can make the pain worse.



It often helps to walk around and do light work or exercises



or to take hot drinks, or put your feet in hot water



Also, it may help to take baralgan (p 416) or to put hot compresses on the belly She should change her pads everyday If she uses a cloth, she should wash and change everyday

Signs of menstrual problems:

- Some irregularity in the length of time between periods is normal for certain women, but for others it may be a sign of chronic illness, anemia, malnutrition, or possibly an infection or tumor in the womb

- If a period does not come when it should, this may be a sign of pregnancy But for many girls who have recently begun to menstruate, and for women over 40, it is often normal to miss or have irregular periods. Worry or emotional upset may also cause a woman to miss her period.

- If bleeding starts during pregnancy, this almost always is the beginning of a miscarriage (death of the developing baby, see p 327).

- **If the menstrual period lasts more than 6 days, results in unusually heavy bleeding, or comes more than once a month, seek medical advice.**

THE MENOPAUSE (WHEN WOMEN STOP HAVING PERIODS)

The *menopause* or *climacteric* is the time in a woman's life when the menstrual periods stop coming After menopause, she can no longer bear children. In general, this 'change of life' happens between the ages of 40 and 50 The periods often become irregular for several months before they stop completely



During menopause, it is normal for a woman to feel many discomforts—anxiety, distress, 'hot flashes' (suddenly feeling uncomfortably hot), pains that travel all over the body, sadness, etc After menopause is over, most women feel better again

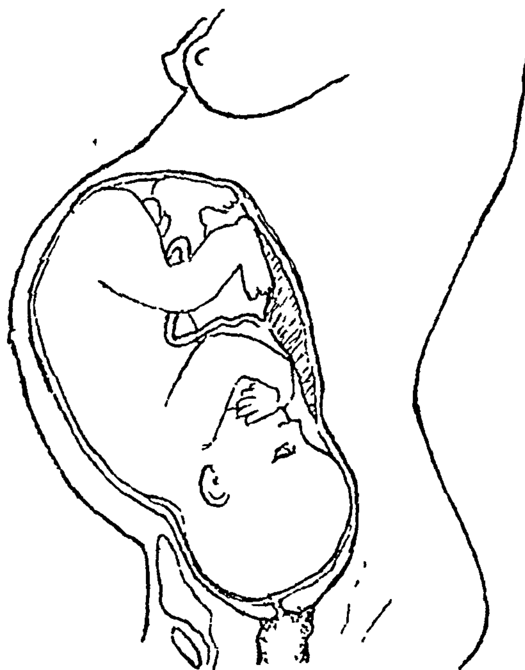
Women who have severe bleeding or a lot of pain in the belly during menopause, or who begin to bleed again after the bleeding has stopped for months or years, should seek medical help An examination is needed to make sure they do not have cancer or another serious problem (see p 326).

PREGNANCY

Signs of pregnancy:

All these signs are normal

- The woman misses her period (often the first sign)
- 'Morning sickness' (nausea or feeling you are going to vomit, especially in the morning) This is worse during the second and third months of pregnancy
- She may have to urinate more often
- The belly gets bigger
- The breasts get bigger
- 'Mask of pregnancy' (dark areas on the face, breasts, and belly)
- Finally, during the fifth month or so, the child begins to move in the womb



This is the normal position of the baby in the mother at 9 months.

How to Stay Healthy during Pregnancy:

- It is very important to **eat well.** The body needs food rich in proteins, vitamins, and minerals, especially iron (Read Chapter 11 in this book)
- **Use iodized salt** to increase the chances that the child will be born alive and will not be retarded (But to avoid swelling of the feet and other problems, do not use very much salt)
- **Keep clean.** Bathe or wash regularly and brush your teeth every day
- In the last month of pregnancy, it is perhaps best to **avoid sexual contact** to keep from breaking the bag of waters and causing an infection
- **Avoid taking medicines** if at all possible Some medicines can harm the developing baby As a rule, only take medicines recommended by a health worker or doctor (If a health worker is going to prescribe a medicine, and you think that you might be pregnant, tell him so) You can take aspirin or antacids once in a while if you need them Vitamin and iron pills are often helpful and do no harm when taken in the right dosage
- **Do not smoke or drink** during pregnancy Smoking and drinking are bad for the mother and harm the developing baby
- Stay far away from children with measles, especially **German measles** (see Rubella, p 359)
- Continue to work and **get exercise,** but try not to get too tired

Minor Problems during Pregnancy:

1 **Nausea or vomiting:** Normally, this is worse in the morning, during the second or third month of pregnancy It helps to eat something dry, like crackers or dry bread, before you get out of bed in the morning Do not eat large meals, but rather smaller amounts of food several times a day In severe cases, take an antihistamine (see p 419) when you go to bed and when you get up in the morning Avoid greasy foods.

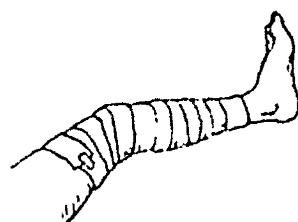
2 **Burning or pain** in the pit of the stomach or chest (acid indigestion and heart burn—see p 149) Eat only small amounts of food at one time If possible, drink milk Avoid taking antacids It helps to suck hard candy Try to sleep with the chest and head lifted up some with pillows or blankets

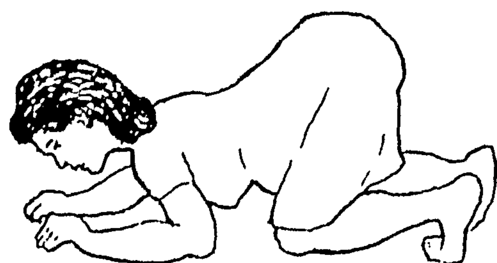
3 **Swelling of the feet:** Rest at different times during the day with your feet up (see p 215) Eat less salt and avoid salty foods Tea made from corn silk may help (see p 21) If the feet are very swollen, and the hands and face also swell, seek medical advice Swelling of the feet usually comes from the pressure of the child in the womb during the last months It is worse in women who are anemic, malnourished, or who eat a lot of salt So **eat nutritious food with little or no salt.**

4 **Low back pain:** This is common in pregnancy It can be helped by exercise and taking care to stand and sit with the back straight (p.212)

5 **Anemia and malnutrition:** Many women in rural areas are anemic even before they are pregnant, and become more anemic during pregnancy To make a healthy baby, a woman needs foods rich in protein and iron If she is very pale and weak or has other signs of anemia and malnutrition (see p 125 and146), she needs to eat more protein She can get this by eating beans, groundnuts, chicken, milk, cheese, eggs, meat, fish, and dark green leafy vegetables. She should also take iron pills (p 424), especially if it is hard to get enough nutritious foods This way she will strengthen her blood to resist dangerous bleeding after childbirth If possible, iron pills should also contain some folic acid and vitamin C

6 **Swollen veins (varicose veins):** These are common in pregnancy, due to the weight of the baby pressing on the veins that come from the legs Put your feet up often, as high as you can (see p 213) If the veins get very big or hurt, wrap them like this with an elastic bandage Take off the bandages at night





7 **Piles (hemorrhoids):** These are varicose veins in the anus They result from the weight of the baby in the womb

To relieve the pain, kneel with the buttocks in the air like this

Also see p 213

8. **Constipation:** Drink plenty of water Eat fruits and food with a lot of natural fiber, like fruits, tapioca or bran. Get plenty of exercise. **Do not take strong laxatives.**

Danger Signs in Pregnancy:

1 **Bleeding:** If a woman begins to bleed during pregnancy, even a little, this is a danger sign. She is probably having a miscarriage (losing the baby). The woman should lie quietly and send for a health worker. Bleeding late in pregnancy (after 6 months) may mean the *placenta* (afterbirth) is blocking the birth opening *(placenta previa).* Without expert help, the woman could bleed to death. Try to get her to a hospital at once.

2 **Severe anemia:** The woman is weak, tired, and has pale or transparent skin (see The Signs of Anemia, p. 146). If not treated, she might die from blood loss at childbirth. If anemia is severe, a good diet is not enough to correct the condition in time. See a health worker and get pills or injections of iron salts (see p. 424). If possible, she should have her baby in a hospital, in case extra blood is needed.

3 **Swelling** of the feet, hands, and face, with headache, dizziness, and sometimes blurred vision, are signs of **toxemia or poisoning of pregnancy.** Sudden weight gain, high blood pressure, and a lot of protein in the urine are other important signs. So if you can do so, go to a midwife or health worker who can measure these things.

To treat TOXEMIA OF PREGNANCY a woman should:

- Stay quiet and in bed at least for a few hours in the afternoon.
- Avoid salt. (Use no salt, eat no foods that contain salt.)
- If she does not get better quickly, has trouble seeing, swells more in the face, or has fits (convulsions), get medical help fast. Her life is in danger.

DURING THE LAST 3 MONTHS OF PREGNANCY



If you have a headache or trouble seeing,

and

if your face and hands begin to swell, you may be suffering from TOXEMIA OF PREGNANCY

GET MEDICAL HELP!

If only your feet swell, it probably is not serious. But watch out for other signs of toxemia. Use little or no salt.

To help prevent TOXEMIA OF PREGNANCY: eat nutritious food, making sure to get enough protein (p. 128) and use very little salt.

CHECK-UPS DURING PREGNANCY (PRENATAL CARE)

Many health centers and midwives encourage pregnant women to come for regular *prenatal* (before birth) check-ups and to talk about their health needs If you are pregnant and have the chance to go for these check-ups, you will learn many things to help you prevent problems and have a healthier baby

If you are a midwife, you can provide an important service to mothers-to-be (and babies-to-be) by inviting them to come for prenatal check-ups—or by going to see them It is a good idea to see them **once a month for the first 8 months** of pregnancy, and **once a week during the last month.**

Here are some important things prenatal care should cover

1 **Sharing information**

Ask the mother about her problems and needs Find out how many pregnancies she has had, when she had her last baby, and any problems she may have had during pregnancy or childbirth Talk with her about ways she can help herself and her baby be healthy, including

- **Eating right.** Encourage her to eat foods rich in protein, vitamins, iron, and calcium (see Chapter 11)
- **Good hygiene** (Chapter 12)
- The importance of taking **few or no medicines** (p. 66)
- The importance of **not smoking** (p 178) and **not drinking alcoholic drinks** (p 177)
- Getting enough **exercise and rest.**
- **Tetanus vaccination** to prevent tetanus in the newborn (Give at the 6th, 7th, and 8th month if first time If she has been vaccinated against tetanus before, give one booster during the 7th month)

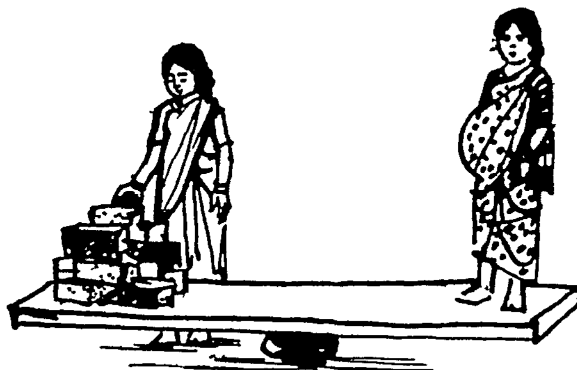
2 **Nutrition**

Does the mother look well nourished? Is she anemic? If so, discuss ways of eating better If possible, see that she gets iron pills—preferably with folic acid and vitamin C Advise her about how to handle morning sickness (p 294) and heart-burn (p 149)

Is she gaining weight normally? If possible, weigh her each visit Normally she should gain 8 to 10 kilograms during the nine months of pregnancy If she stops gaining weight, this is a bad sign Sudden weight gain in the last months is a danger sign If you do not have scales, try to judge if she is gaining weight by how she looks

Or make a simple scales

bricks or other objects of known weight →



3 Minor problems

Ask the mother if she has any of the common problems of pregnancy Explain that they are not serious, and give what advice you can (see p 294)

4 Signs of danger

Check for each of the danger signs on page 295 Take the mother's **pulse** each visit This will let you know what is normal for her in case she has problems later (for example shock from toxemia or severe bleeding) If you have a blood pressure cuff (see p 147), take her **blood pressure.** And **weigh her.** Watch out especially for the following danger signs

- sudden weight gain
- swelling of hands and face
- marked increase in blood pressure

} signs of toxemia of pregnancy (p 295)

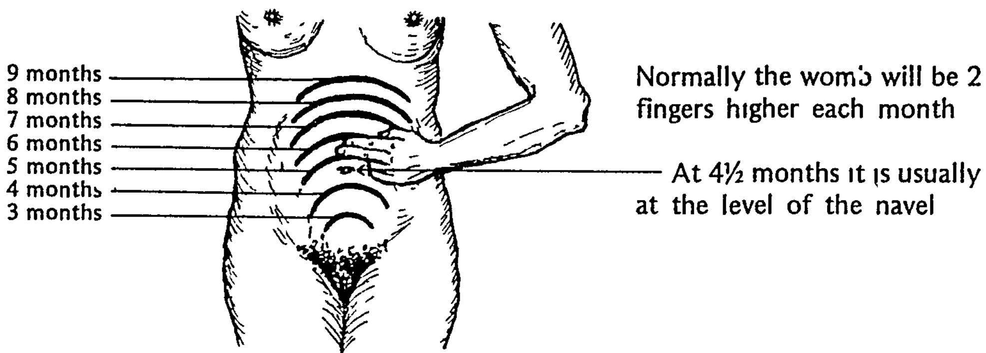
- severe anemia (p 146)
- any bleeding (p 295)

Some midwives may have paper 'dip sticks' or other methods for measuring the protein and sugar in the urine High protein may be a sign of toxemia High sugar is a sign of diabetes (p 149)

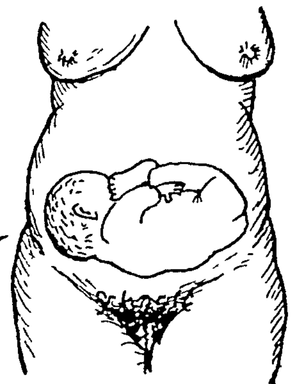
If any of the danger signs appear, see that the woman gets medical help as soon as possible

5. Growth and position of the baby in the womb

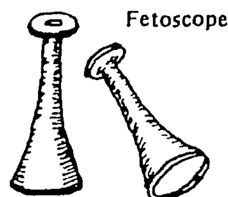
Feel the mother's womb each time she visits, or show her how to do it herself



Each month write down how many finger widths the womb is above or below the navel If the womb seems too big or grows too fast, it may have more water in it than normal If so, you may find it more difficult to feel the baby inside Too much water in the womb means greater risk of severe bleeding during childbirth and may mean the baby is deformed



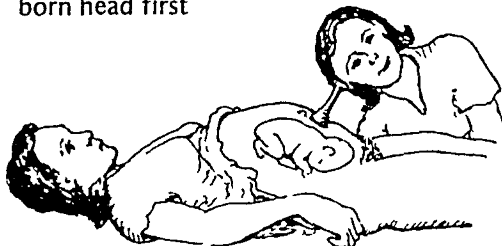
Try to feel the baby's position in the womb If it appears to be lying sideways, the mother should go to a doctor **before** labor begins, because an operation may be needed For checking the baby's position near the time of birth, see page 303



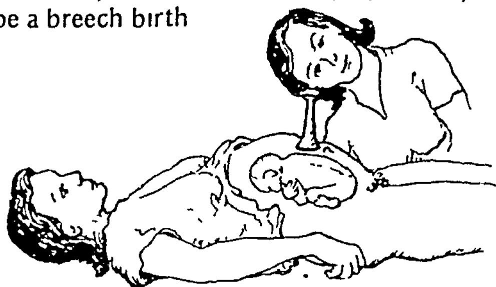
6 **Baby's heartbeat (fetal heartbeat)**

After 5 months, listen for the baby's heartbeat and check for movement You can try putting your ear against the belly, but it may be hard to hear It will be easier if you get a *fetoscope.* (Or make one Fired clay or hard wood works well)

If the baby's heartbeat is heard loudest below the navel in the last month, the baby is head down and will probably be born head first



If the heartbeat is heard loudest above the navel, his head is probably up It may be a breech birth



If you have a watch with a second hand, count the baby's heartbeats From 120 to 160 per minute is normal If less than 120, something is wrong (Or perhaps you counted wrong or heard the mother's heartbeat Check her pulse The baby's heartbeat is often hard to hear It takes practice)

7 **Preparing the mother for labor**

As the birth approaches, see the mother more often If she has other children, ask her how long labor lasted and if she had any problems Talk with her about ways to make the birth easier and less painful (see the next pages) You may want to have her practice deep, slow breathing, so that she can do this during the contractions of labor Explain the importance of relaxing between contractions

If there is any reason to suspect the labor may result in problems you cannot handle, send the mother to a health center or hospital to have her baby. Be sure she is near the hospital by the time labor begins.

HOW A MOTHER CAN TELL THE DATE WHEN SHE IS LIKELY TO GIVE BIRTH:

Start with the date the last menstrual period began, subtract 3 months, and add 7 days.

For example, suppose your last period began May 10.

May 10 minus 3 months is February 10,
plus 7 days is February 17.
The baby is likely to be born around February 17.

8 **Keeping records**

To compare your findings from month to month and see how the mother is progressing, it helps to keep simple records On the next page is a sample record sheet Change it as you see fit A larger sheet of paper would be better Each mother can keep her own record sheet and bring it when she comes for her check-up

RECORD OF PRENATAL CARE

NAME ______________ AGE ____ NUMBER OF CHILDREN ____ AGES ________ DATE OF LAST CHILDBIRTH ________

DATE OF LAST MENSTRUAL PERIOD ________ PROBABLE DATE FOR BIRTH ________ PROBLEMS WITH OTHER BIRTHS ________

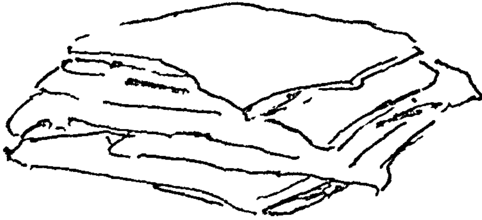
MONTH	DATE OF VISIT	WHAT OFTEN HAPPENS	GENERAL HEALTH AND MINOR PROBLEMS	ANEMIA (how severe)?	DANGER SIGNS (see p 249)	SWELLING (where? how much?)	PULSE	TEMP	WEIGHT (estimate or measure)	BLOOD PRESSURE *	PROTEIN IN URINE *	SUGAR IN URINE *	POSITION OF BABY IN WOMB	SIZE OF WOMB (how many fingers above (+) or below (-) the navel?)	
1														-	
2		tiredness, nausea, and morning sickness												-	
3														-	
4		womb at level of the navel												0	
5		baby heartbeat & 1st movements												+	TETANUS VACCINE
6														+	1st
7		some swelling of feet												+	2nd or booster
8		constipation												+	3rd
9 1st week		heartburn varicose veins												+	
2nd week		shortness of breath												+	
3rd week		frequent urination												+	
4th week		baby moves lower in belly												+	
														+	
														+	
BIRTH															

*These are included for midwives who have means of measuring or testing for this information

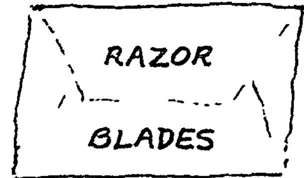
THINGS A MOTHER SHOULD HAVE READY BEFORE GIVING BIRTH

Every pregnant woman should have the following things ready by the seventh month of pregnancy

A lot of very clean cloths or rags.



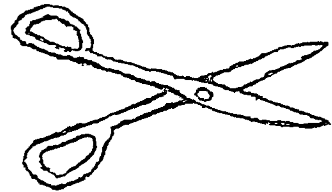
A new razor blade. (Do not unwrap until you are ready to cut the umbilical cord.)



An antiseptic soap (or any soap).



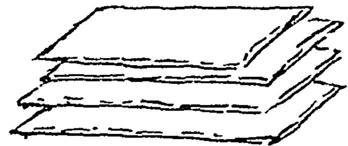
(If you do not have a new razor blade, have clean, rust-free scissors ready Boil them just before cutting the cord)



A clean scrub brush for cleaning the hands and fingernails



Sterile gauze or patches of thoroughly cleaned cloth for covering the navel.



Alcohol for rubbing hands after washing them

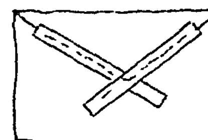


Two ribbons or strips of clean cloth for tying the cord



Clean cotton

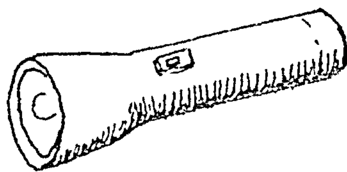




Both patches and ribbons should be wrapped and sealed in paper packets and then baked in an oven or ironed

Additional Supplies for the Well-Prepared Midwife or Birth Attendant

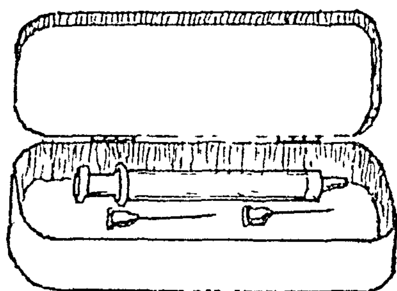
Flashlight (torch)



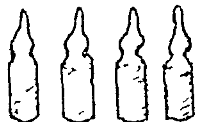
Suction bulb for sucking mucus out of the baby's nose and mouth



Sterile syringe and needles



Several injections of ergonovine (or ergometrine)



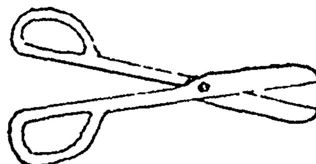
Two bowls—1 for washing hands and 1 for catching and examining the afterbirth



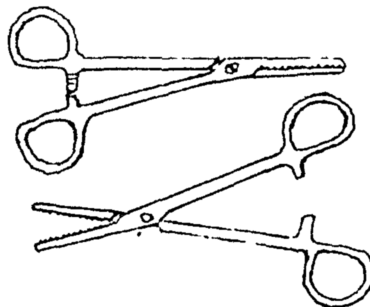


Fetoscope—or fetal stethoscope—for listening to the baby's heartbeat through the mother's belly

Blunt-tipped scissors for cutting the cord before the baby is all the way born (extreme emergency only)



Two clamps (hemostats) for clamping the umbilical cord or clamping bleeding veins from tears of the birth opening.



Sterile needle and gut thread for sewing tears in the birth opening





Silver nitrate drops for the baby's eyes.

PREPARING FOR BIRTH

Birth is a natural event When the mother is healthy and everything goes well, the baby can be born without help from anyone In a normal birth, **the less the midwife or birth attendant does, the more likely everything will go well.**

Difficulties in childbirth do occur, and sometimes the life of the mother or child may be in danger **If there is any reason to think that a birth may be difficult or dangerous, a skilled midwife or experienced doctor should be present**

Danger Signs that Make It Important that a Doctor or Skilled Midwife Attend the Birth:

- If the woman begins to bleed before labor
- If there are signs of toxemia of pregnancy (see p. 295)
- If the woman is suffering from a chronic or acute illness
- If the woman is very anemic, or if her blood does not clot normally (when she cuts herself)
- If she has had serious trouble or severe bleeding with other births.
- If she has a hernia
- If it looks like she will have twins (see p 315)
- If it seems the baby is not in a normal position in the womb
- If the bag of waters breaks and labor does not begin within a few hours (The danger is even greater if there is fever)

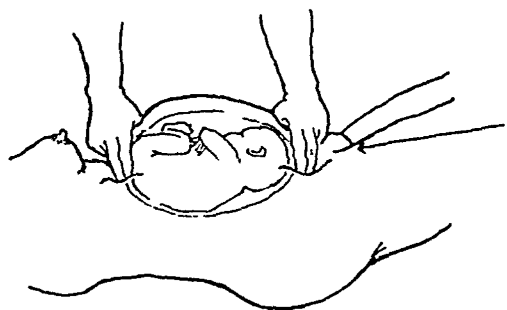
THE BIRTHS WITH THE GREATEST CHANCE OF PROBLEMS ARE.

the first birth and the last births after having many children



Checking if the Baby Is in a Good Position

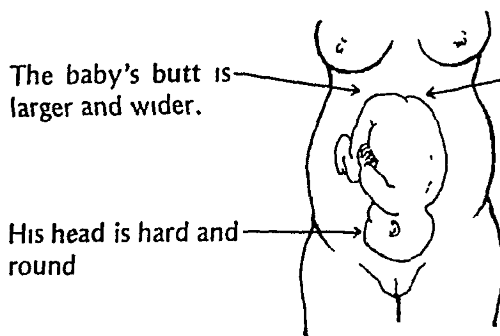
To make sure the baby is head down, in the normal position for birth, feel for his head, like this

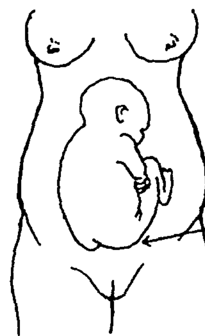


1 Have the mother breathe out all the way

With the thumb and 2 fingers, push in here, just above the *pelvic* bone

With the other hand, feel the top of the womb

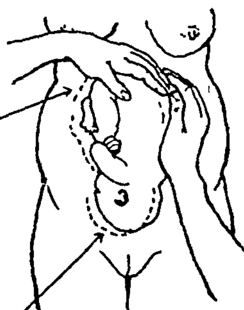




2 Push gently from side to side, first with one hand, then the other

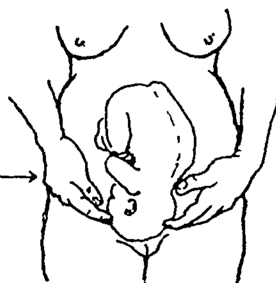
If the baby's butt is pushed gently sideways, the baby's whole body will move too

But if the head is pushed gently sideways, it will bend at the neck and the back will not move



If the baby still is high in the womb, you can move the head a little But if it has already engaged (dropped lower) getting ready for birth, you cannot move it

A woman's first baby sometimes engages 2 weeks before labor begins. Later babies may not engage until labor starts



If the baby's head is <u>down</u>, his birth is likely to go well.
If the head is <u>up</u>, the birth may be more difficult (a breech birth), and it is safer for the mother to give birth in or near a hospital.
If the baby is <u>sideways</u>, the mother should have her baby in a hospital. She and the baby are in danger (see p. 313).

SIGNS THAT SHOW LABOR IS NEAR

- A few days before labor begins, **the baby moves lower** in the womb This lets the mother breathe more easily, but she may need to urinate more often because of pressure on the bladder (In the first birth these signs can appear up to 2 weeks before delivery)

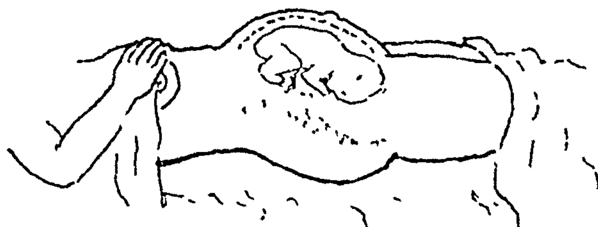
- A short time before the labor begins, a small **plug of mucus** (jelly) may come out Or some mucus may come out for 2 or 3 days before labor begins. Some times it is tinted with blood This is normal

- The **contractions** (sudden tightening of the womb) or labor pains may start up to several days before childbirth, at first a long time usually passes between contractions–several minutes or even hours When the contractions become stronger, regular, and more frequent, labor is beginning

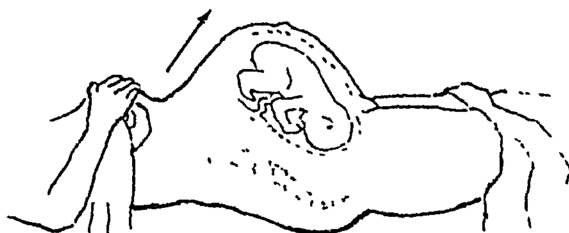
- Some women have a few **practice contractions** weeks before labor. This is normal On rare occasions, a woman may have false labor This happens when the contractions are coming strong and close together, but then stop for hours or days before childbirth actually begins Sometimes walking or an enema will help calm the contractions if they are false or bring on childbirth if they are real

Labor pains are caused by contractions or tightening of the womb.

Between contractions the womb is relaxed like this:



During contractions, the womb tightens and lifts up like this:



The contractions cause the *cervix* or 'door of the womb' to open—a little more each time.

- The **bag of waters** that holds the baby in the womb usually breaks with a flood of liquid sometime after labor has begun If the waters break before the contractions start, this usually means the beginning of labor After the waters break, the mother should keep very clean Walking back and forth may help bring on labor more quickly

THE STAGES OF LABOR

Labor has 3 parts or stages

- The first stage lasts from the beginning of the strong contractions until the baby drops into the birth canal
- The second stage lasts from the dropping of the baby into the birth canal until it is born
- The third stage lasts from the birth of the baby until the placenta (afterbirth) comes out

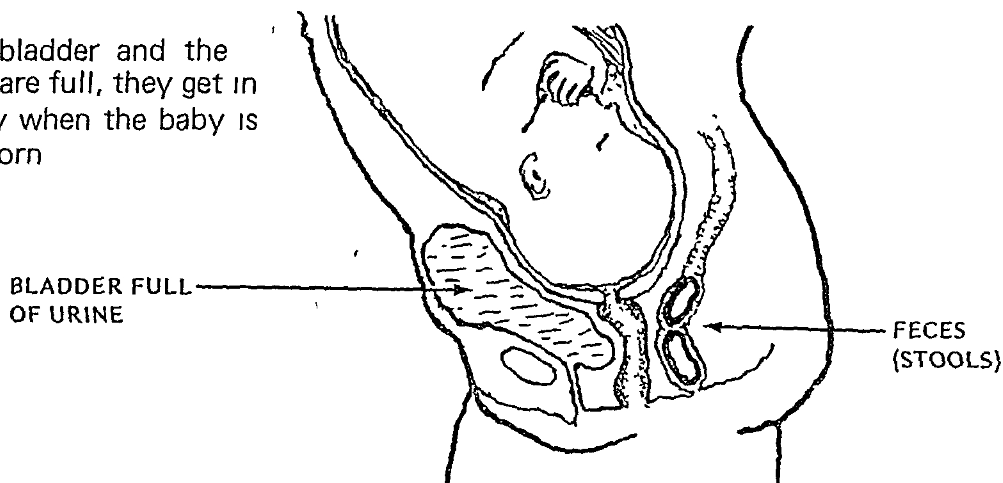
THE FIRST STAGE OF LABOR usually lasts 10 to 20 hours or more when it is the mother's first birth, and from 7 to 10 hours in later births This varies a lot

During the first stage of labor, the mother should not try to hurry the birth It is natural for this stage to go slowly The mother may not feel the progress and may begin to worry Try to reassure her Tell her that most women have the same concern

The mother should not push or bear down until the child is beginning to move down into the birth canal, and she feels she has to push

The mother should keep her bowels and bladder empty

If the bladder and the bowels are full, they get in the way when the baby is being born



During labor, the mother should urinate often If she has not moved her bowels in several hours, an enema may make labor easier During labor the mother should drink water or other liquids often Too little liquid in the body can slow down or stop labor If labor is long, she should eat lightly, as well If she is vomiting, she should sip a little Rehydration Drink, herbal tea, or fruit juices between each contraction

During labor the mother should change positions often or even get up and walk about from time to time

During the first stage of labor, the midwife or birth attendant should

- Wash the mother's belly, genitals, buttocks, and legs well with soap and warm water The bed should be in a clean place with enough light to see clearly
- Spread clean sheets, towels, or newspapers on the bed and change them whenever they get wet or dirty
- Have a new, unopened razor blade ready for cutting the cord, or boil a pair of scissors for 15 minutes Keep the scissors in the boiled water in a covered pan until they are needed

The midwife should **not** massage or push on the belly She should **not** ask the mother to push or bear down at this time.

If the mother is frightened or in great pain, have her take deep, **slow,** regular breaths during each contraction, and breathe normally between them This will help control the pain and calm her

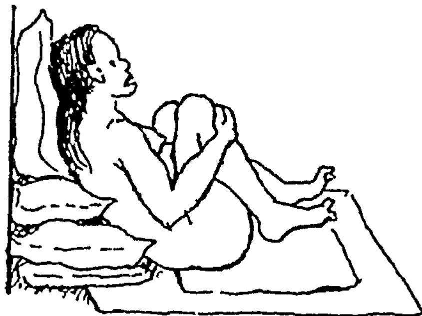
THE SECOND STAGE OF LABOR, in which the child is born· Sometimes this begins when the bag of waters breaks It is usually easier than the first stage and takes less time During the contractions the mother bears down (pushes) with all her strength Between contractions, she may seem exhausted and half asleep This is normal

To bear down, the mother should take a deep breath and push hard with her stomach muscles, as if she were having a bowel movement If the child comes slowly after the bag of waters breaks, the mother can double her knees like this, while

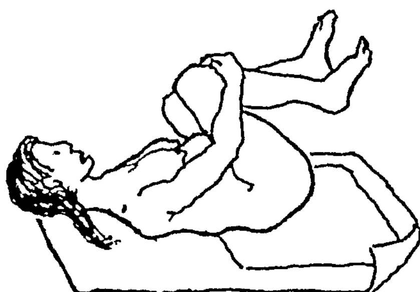
squatting,



sitting propped up,



or lying down.

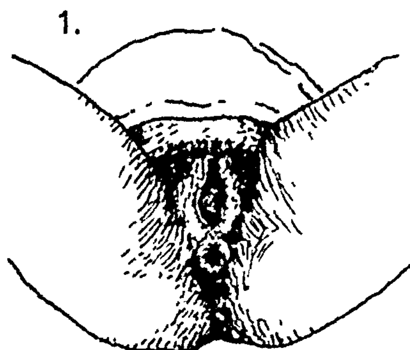


When the birth opening of the mother stretches, and the baby's head begins to show, the midwife or helper should have everything ready for the birth of the baby At this time the mother should try **not** to push, so that the head comes out more slowly This helps prevent tearing of the opening (see p 315 for more details).

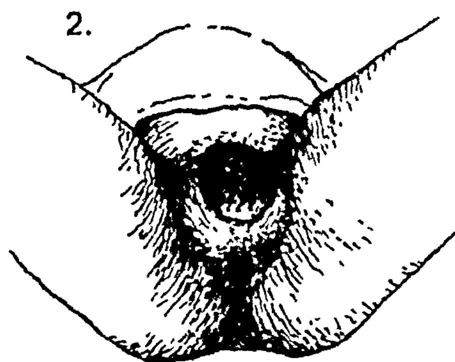
In a normal birth, the midwife *never* needs to put her hand or finger inside the mother. This is the most common cause of dangerous infections of the mother after the birth

When the head comes out, the midwife may support it, but must *never* pull on it

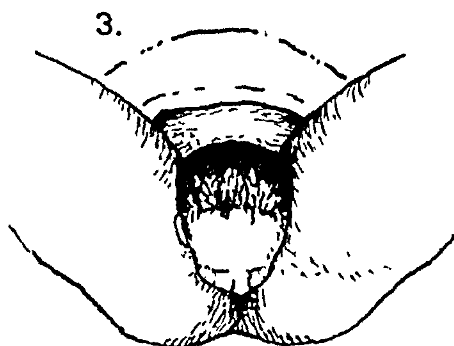
Normally the baby is born head first like this:



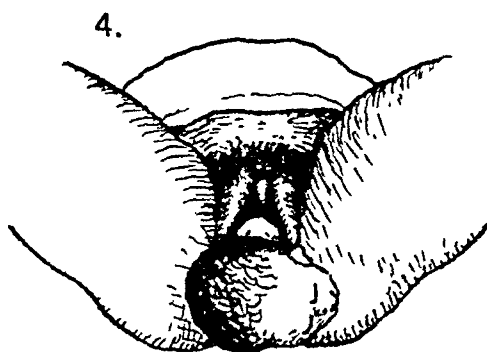
Now push hard.



Now try not to push hard. Take many short, fast breaths This helps prevent tearing the opening (see p 269)

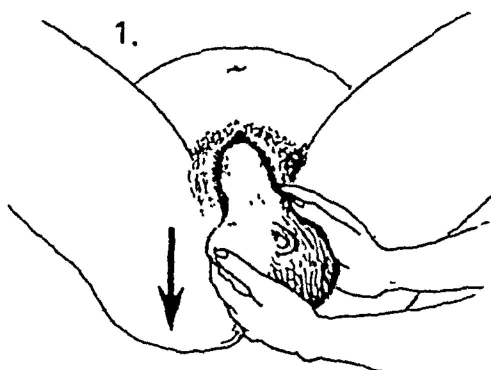


The head usually comes out face down

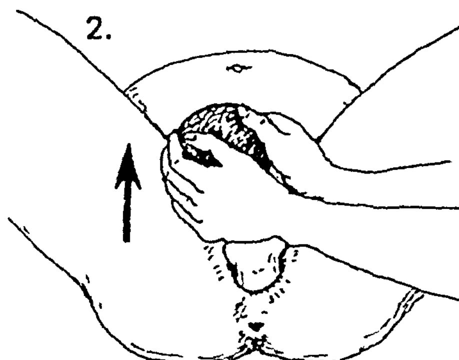


Then the baby's body turns to one side so the shoulders can come out

If the shoulders get stuck after the head comes out:



The midwife can take the baby's head in her hands and lower it very carefully, so the shoulder can come out

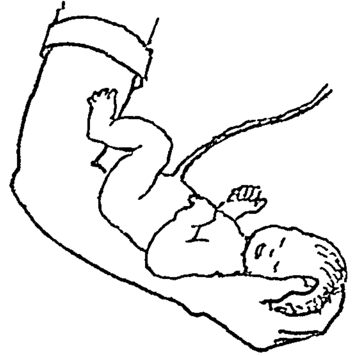


Then she can raise the head a little so that the other shoulder comes out

All the force must come from the mother The midwife should **never pull on the head,** because pulling harms the baby

THE THIRD STAGE OF LABOR begins when the baby has been born and lasts until the placenta (afterbirth) comes out. Usually, the placenta comes out by itself 5 mintues to an hour after the baby In the meantime, **care for the baby.**

CARE OF THE BABY AT BIRTH

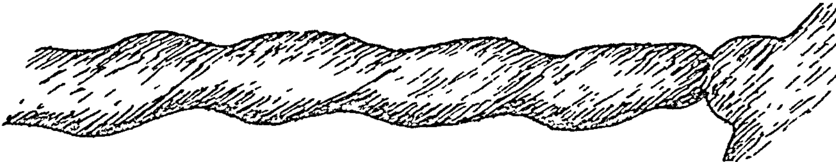


Immediately after the baby comes out

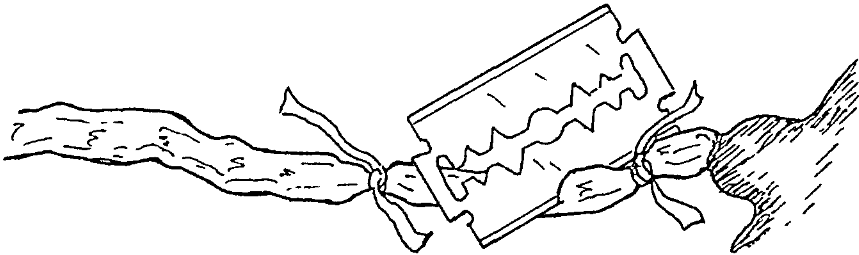
- Put the baby's head down so that the mucus comes out of his mouth and throat Keep it this way until he begins to breathe
- Keep the baby *below* the level of the mother until the cord is tied (This way, the baby gets more blood and will be stronger)
- If the baby does not begin to breathe right away, rub his back with a towel or a cloth
- If he still does not breathe, clean the mucus out of his nose and mouth with a suction bulb or a clean cloth wrapped around your finger
- *If the baby has not begun to breathe within one minute after birth, start* MOUTH-TO-MOUTH BREATHING **at once** (see p 92, 93)
- Wrap the baby in a clean cloth It is very important not to let him get cold, especially if he is premature (born too early)

How to Cut the Cord:

When the child is born, the cord pulses and is fat and blue **WAIT.**



After a while, the cord becomes thin and white It stops pulsing Now tie it in 2 places with very clean, dry strips of cloth, string, or ribbon These should have been recently ironed or heated in an oven Cut between the ties, like this

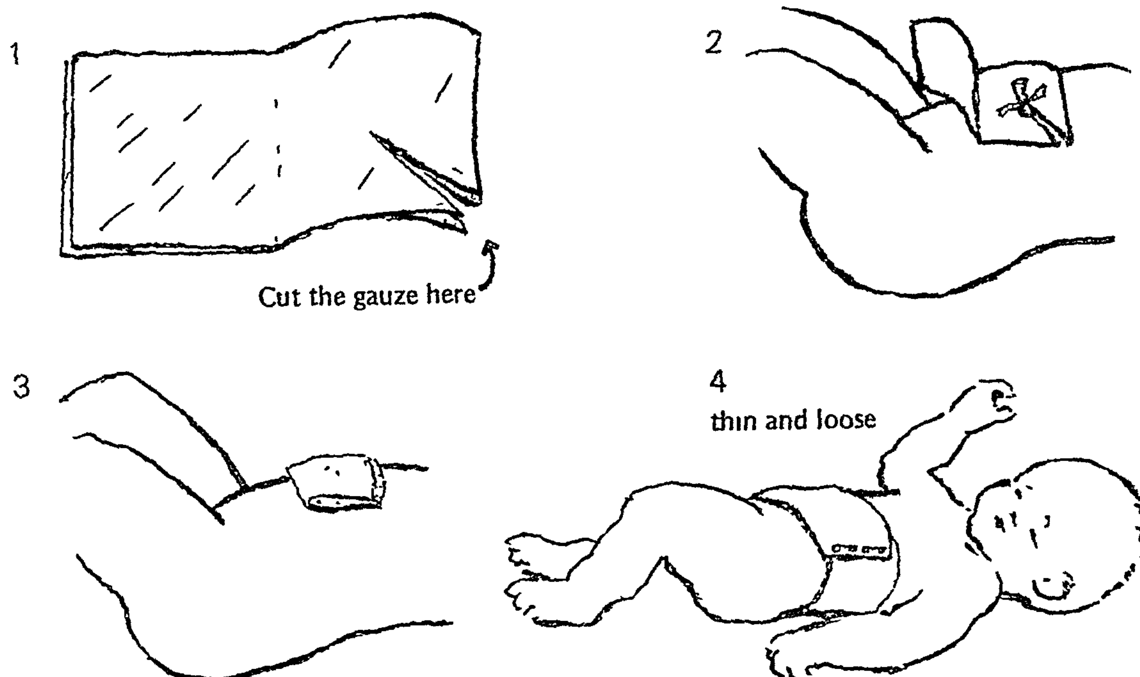


IMPORTANT: Cut the cord with a clean, unused razor blade Before unwrapping it, wash your hands very well If you do not have a new razor blade, use freshly boiled scissors **Always cut the cord close to the body of the newborn baby.** Leave only about 2 centimeters attached to the baby These precautions help prevent tetanus (see p 225).

Care of the Cut Cord:

The most important way to protect the freshly cut cord from infection is to **keep it dry.** To help it dry out, **the air must get to it.** If the home is very clean and there are no flies, leave the cut cord uncovered and open to the air

If there are dust and flies, cover the cord lightly It is best to use sterile gauze Cut it with boiled scissors Put it on like this



If you do not have sterile gauze, you can cover the navel with a very clean and freshly ironed cloth It is better not to use a belly band, but if you want to use one, use a thin, light cloth, like cheesecloth, and be sure it is loose enough to let air in under it, to keep the navel dry Do not make it tight

Be sure the baby's nappy (diapers) does not cover the navel, so that the cord does not get wet with urine

Cleaning the Newborn Baby:

The baby is covered with a white waxy substance called **Vermix.** This is antiseptic Do not remove it It will fall away by itself in 2 or 3 days

With a warm, soft, damp cloth, gently clean away any blood or fluid

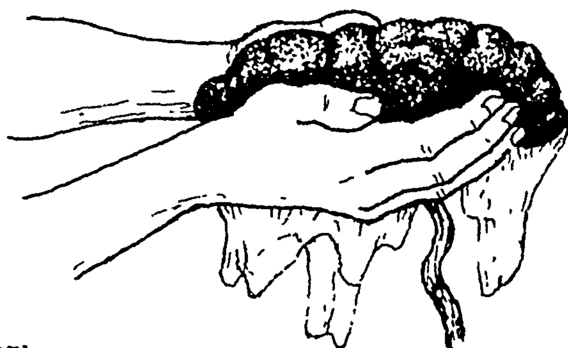
It is better **not** to bathe the baby until after the cord drops off (usually 5 to 8 days) Then bathe him daily in warm water, using a mild soap

Put the Newborn Baby to the Breast at Once:

Place the baby at its mother's breast as soon as the cord is cut If the baby nurses, this will help to make the afterbirth come out sooner and to prevent or control heavy bleeding

THE DELIVERY OF THE PLACENTA (AFTERBIRTH)

Normally, the placenta comes out 5 minutes to an hour after the baby is born, but sometimes it is delayed for many hours (see below)



Checking the afterbirth:

When the afterbirth comes out, pick it up and examine it to see if it is complete If it is torn and there seem to be pieces missing, get medical help A piece of placenta left inside the womb can cause continued bleeding or infection

When the placenta is delayed in coming:

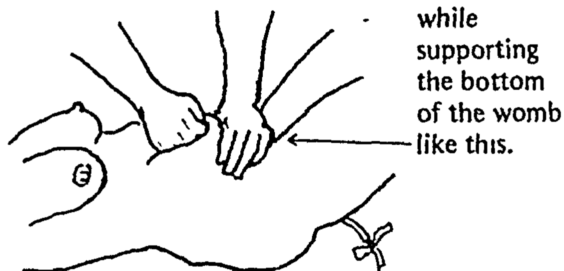
If the mother is not losing much blood, do nothing **Never pull on the cord.** This could cause dangerous hemorrhage (heavy bleeding)

If the mother is losing blood, feel the womb (uterus) through the belly If it is soft, do the following

Massage the womb carefully, until it gets hard This should make it contract and push out the placenta



If the placenta does not come out soon, and bleeding continues, push downward on the top of the womb very carefully,



If the placenta still does not come out, and the heavy bleeding continues, try to control the bleeding as follows and seek medical help fast.

HEMORRHAGING (HEAVY BLEEDING)

When the placenta comes out, there is always a brief flow of blood It normally lasts only a few minutes and not more than a quarter of a liter (1 cup) of blood is lost (A little bleeding may continue for several days and is usually not serious) Bleeding can often be slowed down by putting the baby to the breast If he will not suck, perhaps someone can stroke or stimulate the mother's nipples

WARNING: Sometimes a woman may be bleeding severely inside without much blood coming out Feel her belly from time to time If it seems to be getting bigger, it may be filling with blood Check her pulse often and watch for signs of shock (p.89)

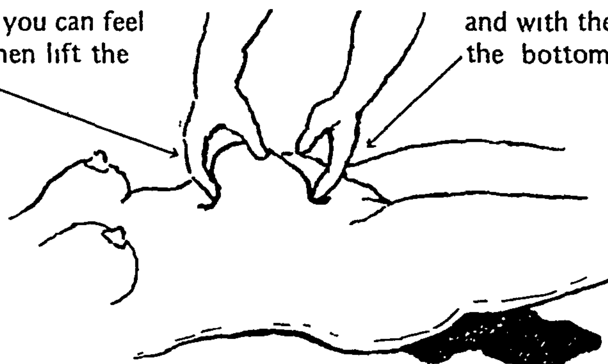
If heavy bleeding continues, or if the mother is losing a great deal of blood through a steady trickle, do the following

- Get medical help fast If the bleeding does not stop quickly, the mother may need to be given serum blood in a vein (a transfusion)

- If you have **ergonovine** or **oxytocin,** use it, following the instructions on the next page (Use oxytocin instead of ergonovine if the placenta is still inside)

- The mother should drink a lot of liquid (water, fruit juices, tea, soup, or Rehydration Drink—p 182) If she grows faint or has a fast, weak pulse or shows other signs of **shock,** put her legs up and her head down (see p 89)

- If the mother is losing a lot of blood, and is in danger of bleeding to death, try to stop the bleeding like this



As soon as the womb gets firm and bleeding stops, stop massaging it until it gets soft again. Check it every minute or so

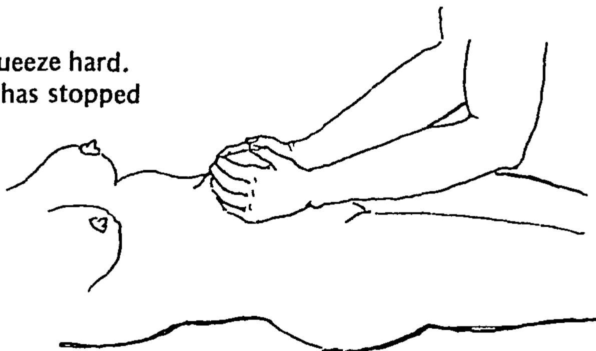
- If the bleeding continues in spite of massaging the womb, do the following

Using all of your weight, press down with both hands, one over the other, on the belly just below the navel. You should continue pressing down a long time after the bleeding stops



- If the bleeding is still not under control

Grasp the womb between your hands and squeeze hard. Keep squeezing it firmly until the bleeding has stopped for several minutes or until you get medical help



THE CORRECT USE OF OXYTOCINS: ERGONOVINE, OXYTOCIN, *PITOCIN*, ETC.

Oxytocics are medicines that contain ergonovine, ergometrine, or oxytocin. They cause contractions of the uterus and its blood vessels They are important but dangerous drugs Used the wrong way, they can cause the death of the mother or the child in her womb Used correctly, sometimes they can save lives These are their correct uses

1 **To control bleeding after childbirth.** This is the most important use of these medicines In a case of heavy bleeding after the placenta has come out, inject one 0 5mg ampule of ergonovine or ergometrine maleate (*Methergin*. etc p 423) in the muscle If she continues to bleed for half an hour, inject ½ ampule more and take her to the health center After bleeding is controlled, continue giving 1 tablet every 4 hours for 24 hours If no ergonovine is available, or if heavy bleeding starts before the placenta comes out, inject oxytocin (*Pitocin*, p 423) instead

IMPORTANT: Each expectant mother, and the midwife, should have ready enough ampules of ergonovine to combat heavy bleeding if it occurs But these medicines should be used only in serious cases

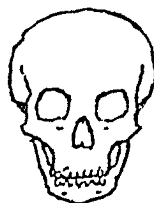
2 **To help prevent heavy bleeding after birth.** A woman who has suffered from heavy bleeding after previous births can be given 1 ampule (or 2 pills) of ergonovine immediately after the placenta comes out, If she continues to bleed after half an hour, give another dose and take her to the health center

3 **To control the bleeding of a miscarriage** (p 327) The use of oxytocics can be dangerous, and only a skilled health worker should use them But, if the woman is rapidly losing blood and medical help is far away, use an oxytocic as suggested above Oxytocin (*Pitocin*) is probably best

WARNING: The use of *Ergotrate, Pitocin,* or *Pituitrin* to hasten childbirth or 'give strength' to the mother in labor is very dangerous for both her and the child The times when oxytocics are needed before the baby is born are very rare, and it is better that only a trained birth attendant use them then **Never use oxytocics before the child is born!**

THE USE OF OXYTOCICS DURING CHILDBIRTH TO 'GIVE STRENGTH' TO THE MOTHER . .





CAN KILL THE MOTHER, THE BABY, OR BOTH.

There is **no** safe medicine for giving strength to the mother or for making the birth quicker or easier

If you want the woman to have enough strength for childbirth, have her eat body-building and protective foods during the full 9 months of pregnancy Also encourage her to have children less often Suggest that she not get pregnant again until enough time has passed for her to regain her full strength (see Family Planning, p 329).

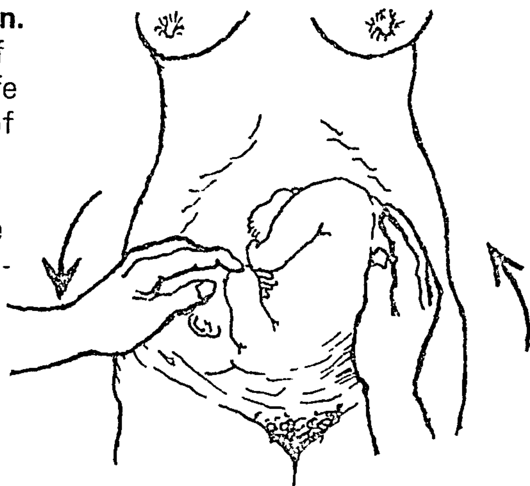
DIFFICULT BIRTHS

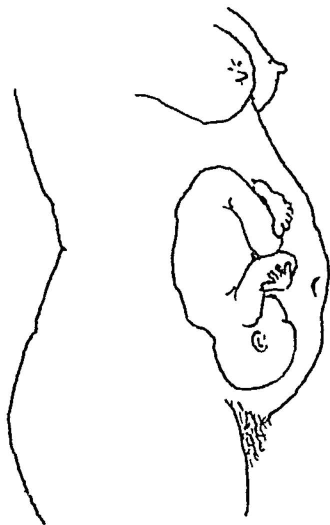
It is important to get medical help as quickly as possible when there is any serious problem during labor Many problems or complications may come up, some more serious than others Here are a few of the more common ones

1 LABOR STOPS OR SLOWS DOWN, or lasts a very long time after being strong or after the waters break This has several possible causes

- **The woman may be frightened or upset.** This can slow down or even stop contractions Talk to her Try to reassure her Explain that the birth is slow, but there are no serious problems Encourage her to change her position often, and to drink, eat, and urinate

- **The baby may be in an unusual position.** Feel the belly between contractions to see if the baby is **sideways.** Sometimes the midwife can turn the baby through **gentle** handling of the woman's belly Try to work the baby around little by little between contractions, until the head is down But **do not use force** as this could tear the womb If the baby cannot be turned, try to get the mother to a hospital

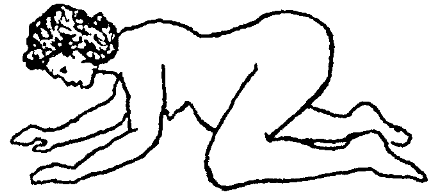




- **If the baby is facing forward** rather than backward, you may feel the lumpy arms and legs rather than the rounded back This is usually no big problem, but labor may be longer and cause the woman more back pain She should change positions often, as this may help turn the baby

- **The baby's head may be too large to fit through the woman's hip bones** (pelvis) This is more likely in a woman with very narrow hips (and very unlikely in a woman who has given normal birth before) You may feel that the baby does not move down If you suspect this problem, try to get the mother to a hospital as she may need an operation (cesarian) **Women with very narrow hips should have at least their first child in or near a hospital.**

- **If the mother has been vomiting or has not been drinking,** she may be dehydrated This can slow down or stop contractions Have her sip Rehydration Drink or other liquids between contractions



2 BREECH DELIVERY (the buttocks come out first) Sometimes the midwife can tell if the baby is in the breech position by feeling the mother's belly (p 303) and listening to the baby's heartbeat (p 298)

A breech birth may be easier in this position

If the baby's legs come out, but not the arms, wash your hands very well, rub them with alcohol (or wear sterile gloves), and then

slip your fingers inside and push the baby's shoulders toward the back, like this.

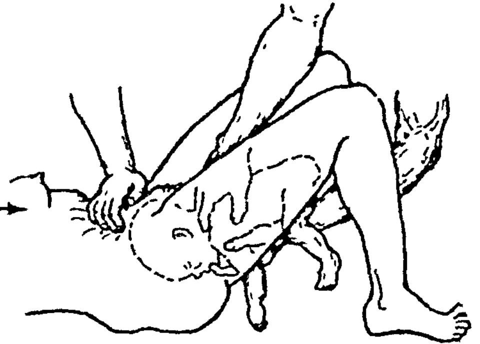


or press his arms against his body, like this·

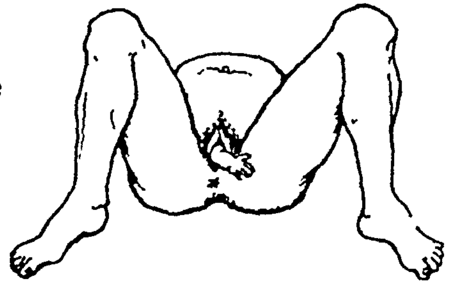


If the head gets stuck, have the mother lie face up Put your finger in the baby's mouth and push his head towards his chest At the same time have someone push the baby's head down by pressing on the mother's belly like this——→

Have the mother push hard But never pull on the body of a baby



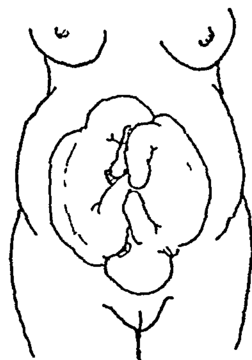
3 PRESENTATION OF AN ARM (hand first) If the baby's hand comes out first, get medical help right away An operation may be needed to get the baby out



4 Sometimes the CORD IS WRAPPED AROUND THE BABY'S NECK so tightly he cannot come out all the way Try to slip the loop of cord from around the baby's neck. If you cannot do this, you may have to clamp or tie and cut the cord. Use boiled blunt-tipped scissors

5 FECES IN THE BABY'S MOUTH AND NOSE. When the waters break, if you see they contain the baby's first black stools (meconium), the baby may be in danger If he breathes any of the feces into his lungs, he may die As soon as his head is out, tell the mother not to push, but to take short, rapid breaths Before the baby starts breathing, take time to suck the feces out of his nose and mouth with a suction bulb Even if he starts breathing right away, keep sucking until you get all the feces out

6 TWINS. Giving birth to twins is often more difficult and dangerous—both for the mother and babies—than giving birth to a single baby



To be safe, the mother should give birth to twins in a hospital.

Because with twins labor often begins early, **the mother should be within easy reach of a hospital after the seventh month of pregnancy.**

Signs that a woman is likely to have twins:

- The belly grows faster and the womb is larger than usual, especially in the last months (see p 297)
- If the woman gains weight faster than normal, or the common problems of pregnancy (morning sickness, backache, varicose veins, piles, swelling, and difficult breathing) are worse than usual, be sure to check for twins
- If you can feel 3 or more large objects (heads and buttocks) in a womb that seems extra large, twins are likely
- Sometimes you can hear 2 different heartbeats (other than the mother's)—but this is difficult

During the last months, if the woman rests a lot and is careful to avoid hard work, twins are less likely to be born too early

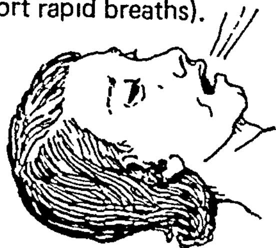
Twins are often born small and need special care However, there is no truth in beliefs that twins have strange or magic powers

TEARING OF THE BIRTH OPENING

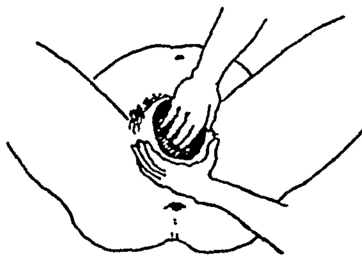
The birth opening must stretch a lot for the baby to come out Sometimes it tears Tearing is more likely if it is the mother's first baby

Tearing can usually be prevented if care is taken

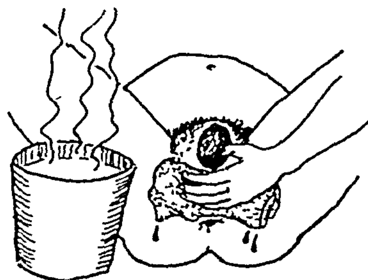
The mother should try to stop pushing when the baby's head is coming out This gives her birth opening time to stretch In order not to push, she should pant (take many short rapid breaths).



When the birth opening is stretching, the midwife can support it with one hand and with the other hand gently keep the head from coming too fast, like this



It may also help to put hot compresses against the skin below the birth opening Start when it begins to stretch



If a tear does happen, someone who knows how should carefully sew it shut after the placenta comes out (see p 99 and 415).

CARE OF THE NEWBORN BABY

The Cord:

[illegible] **clean and dry.** [illegible] **not** [illegible]

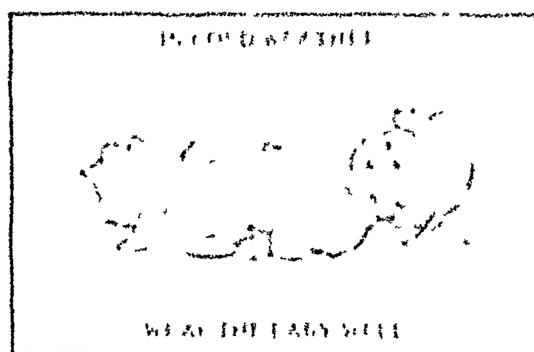
The Eyes.

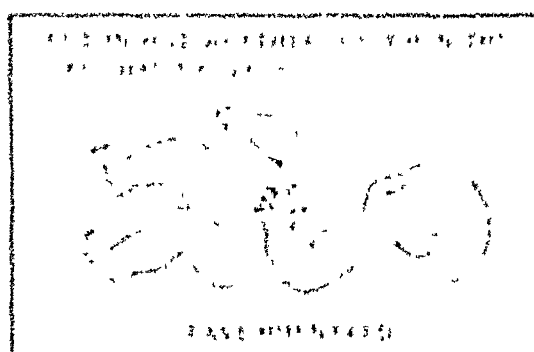


[illegible]

Keeping the Baby Warm—But Not Too Warm:

[illegible]





[illegible]

Cleanliness:

[illegible]

12 [illegible]

- [illegible] off! [illegible]
- [illegible] water.
- [illegible] or a thin cloth.
- [illegible]
- [illegible]

Feeding:

(Also see "The Best Diet for Small Children," p 141)

Breast milk is by far the best food for a baby Babies who nurse on breast milk are healthier, grow stronger, and are less likely to die This is why

- Breast milk has a better balance of what the baby needs than does any other milk, whether fresh, canned, or powdered
- Breast milk is clean When other foods are given, especially by bottle feeding, it is very hard to keep things clean enough to prevent the baby from getting diarrhea and other sicknesses
- *The temperature of breast milk is always right*
- Breast milk has things in it (antibodies) that protect the baby against certain illnesses, such as measles and polio

The mother should give her breast to the baby as soon as he is born For the first few days the mother's breasts usually produce very little milk. This is normal She should **not** start bottle feeding her baby, but should **nurse her baby often.** The baby's sucking will help her produce more milk

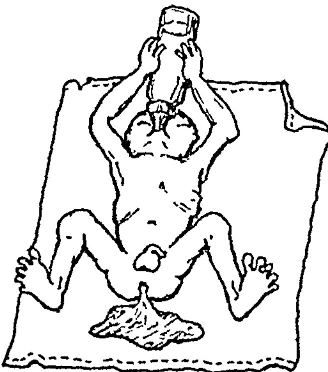
A mother whose breasts make enough milk should give her baby **only breast milk** for the first 4 to 6 months After that, she should continue to breast feed her baby, but should begin to give him other nourishing foods also (see p 142)

HOW A MOTHER CAN PRODUCE MORE MILK:

She should

- drink plenty of liquids,
- eat as well as possible, especially milk, milk products, and body-building foods (see p 128), such as beans, dals, green leafy vegetables and fruits like papaya, dry fish and garlic increase the amount of milk
- get plenty of sleep and avoid getting very tired or upset,
- nurse her baby more often

BOTTLE-FED BABIES ARE MORE LIKELY TO GET SICK AND DIE



BREAST-FED BABIES ARE HEALTHIER



Care in Giving Medicines to the Newborn:

Many medicines are dangerous for the newborn Use only medicines you are sure are recommended for the newborn and use them only when they are absolutely necessary Be sure you know the right dose and do not give too much Chloramphenicol is especially dangerous to the newborn and even more dangerous if the baby is premature or underweight (less than 2 kilograms)

ILLNESSES OF THE NEWBORN

It is very important to notice any problem or illness a baby may have—and to act quickly

Diseases that take days or weeks to kill adults can kill a baby in a matter of hours.

Problems the Baby is Born with: (Also see p 363)

These may result from something that went wrong with the development of the baby in the womb or from damage to the baby while he was being born Examine the baby carefully immediately after birth If he shows any of the following signs, something is probably seriously wrong with him

- If he does not breathe as soon as he is born
- If his pulse cannot be felt or heard, or is less than 100 per minute
- If his face and body are white, blue, or yellow after he has begun breathing
- If his arms and legs are floppy—he does not move them by himself or when you pinch them
- If he grunts or has difficulty breathing after the first 15 minutes

Some of these problems may be caused by brain damage at birth They are almost never caused by infection (unless the waters broke more than 24 hours before birth) Common medicines probably will not help Try to get medical help

If the baby does not urinate or have a bowel movement in the first 2 days, also seek medical help

Problems that Result after the Baby is Born (in the first days or weeks):

1 **Pus or a bad smell from the navel (cord)** is a dangerous sign Watch for early signs of tetanus (p 223) or a bacterial infection of the blood (p 321) Soak the cord in hydrogen peroxide, paint it with gentian violet (p 409), and leave it open to the air **If the skin around the cord becomes hot and red,** treat with ampicillin (p 399) or with penicillin and streptomycin (p 400)

2 Either **low temperature** (below 35°) or **high fever** can be a sign of infection *High fever (above 39°) is dangerous for the newborn.* Take off all clothing and sponge the baby with cool water as shown on page 88 Also look for signs of dehydration (see p 181). If you find these signs, give the baby breast milk and also Rehydration Drink (p 182)

3 **Fits (convulsions,** see p 217**).** If the baby also has fever, treat it as just described Be sure to check for dehydration. Fits that begin the day of birth are probably caused by brain damage at birth. If fits begin several days later, look carefully for signs of tetanus (p 223) or meningitis (p.225)

4 **The baby does not gain weight.** During the first days of life, most babies lose a little weight This is normal After the first week, a healthy baby should gain about 200 gm a week By two weeks the healthy baby should weigh as much as he did at birth If he does not gain weight, or loses weight, something is wrong. Did the baby seem healthy at birth? Does he feed well? Examine the baby carefully for signs of infection or other problems. If you cannot find out the cause of the problem and correct it, get medical help

5. **Vomiting.** When healthy babies burp (or bring up air they have swallowed while feeding), sometimes a little milk comes up too This is normal. Help the baby bring up air after feeding by holding him against your shoulder and patting his back gently, like this ⟶



BURP YOUR BABY AFTER FEEDING

If a baby vomits when you lay him down after nursing, try sitting him upright for a while after each feeding

A baby who vomits violently, or so much and so often that he begins to lose weight or become dehydrated, is ill If the baby also has diarrhea, he probably has a gut infection (p 188) Bacterial infection of the blood (see the next pages), meningitis (p. 225), and other infections may also cause vomiting

If the vomit is yellow or green, there may be a gut obstruction (p 107) especially if the belly is very swollen or the baby has not been having bowel movements Take the baby to a health center **at once.**

6 **The baby stops sucking well.** If more than 4 hours pass and the baby still will not nurse, this is a danger sign—especially if the baby seems very sleepy or ill, or if he cries or moves differently from normal Many illnesses can cause these signs, but the most common and dangerous causes in the first 2 weeks of life are a **bacterial infection of the blood** (see next 2 pages) and **tetanus** (p 223)

A baby who stops nursing during the second to fifth day of life may have a bacterial infection of the blood.

A baby who stops nursing during the fifth to fifteenth day may have tetanus.

If a Baby Stops Sucking Well or Seems Ill:

Examine him carefully and completely as described in Chapter 3. Be sure to check the following

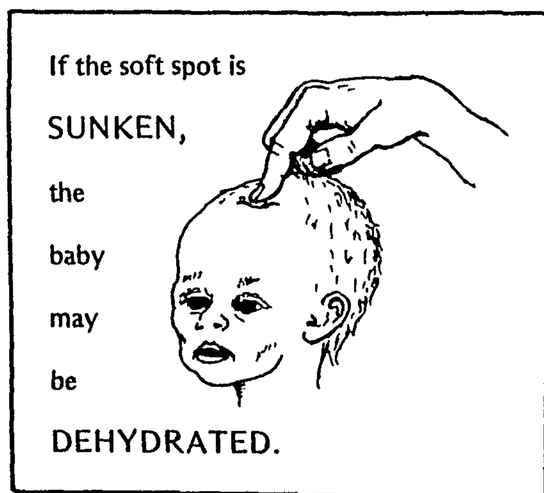
- Notice if the baby has **difficulty breathing.** If the nose is stuffed up, suck it out as shown on page 201 Fast breathing (50 or more breaths a minute), blue color, grunting, and sucking in of the skin between the ribs with each breath are signs of pneumonia (p 209). Small babies with pneumonia often do not cough; sometimes none of the common signs are present If you suspect pneumonia, treat as for a bacterial infection of the blood (see the next page)

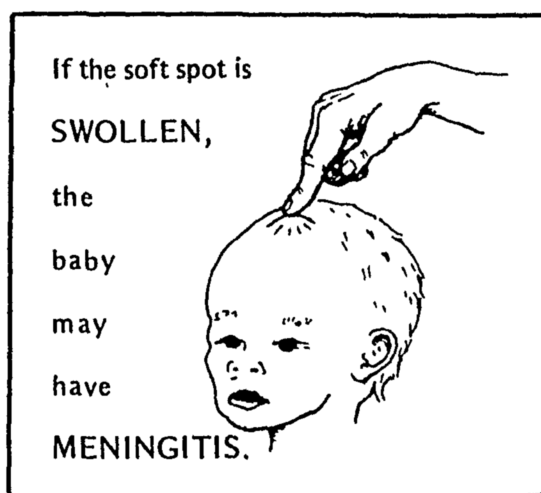
- Look at the baby's **skin color.**

  If the lips and face are blue, consider pneumonia (or a heart defect or other problem the baby was born with)

  If the face and whites of the eyes begin to get yellow (jaundiced) in the first day of life or after the fifth day, this is serious. Get medical help. Some yellow color between the second and fifth day of life is usually not serious. Give the baby plenty of liquid—Rehydration Drink is best, in addition to breast milk (p 182) Take off all his clothes and put him in bright light near a window (but not direct sunlight)

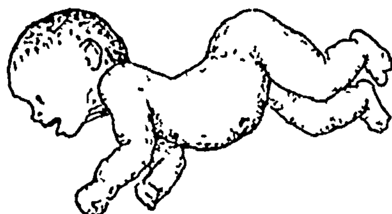
- Feel the **soft spot on top of the head** (fontanel). See p. 6





IMPORTANT: If a baby has meningitis and dehydration at the same time, the soft spot may feel normal **Be sure to check for other signs** of both dehydration (see p 181) and meningitis (see p. 225)

- **Watch the baby's movements and expression on his face.**



Stiffness of the body and/or strange movements may be signs of tetanus, meningitis, or brain damage from birth or fever If, when the baby is touched or moved, the muscles of his face and body suddenly tighten, this could be tetanus See if his jaw will open and check his knee reflexes (p 224)

If the baby's eyes roll back or flutter when he makes sudden or violent movements, he probably does **not** have tetanus Such fits **may** be caused by meningitis, but dehydration and high fever are more common causes. Can you put the baby's head between his knees? If the baby is too stiff for this or cries out in pain, it is probably meningitis (see p.225).

- Look for signs of a bacterial infection in the blood.

Bacterial Infection in the Blood (Septicemia):

Newborn babies cannot fight infections well Therefore, bacteria that enter the baby's skin or cord at the time of birth often get into the blood and spread through his whole body. Since this takes a day or two, septicemia is most common after the second day of life.

Signs:

Signs of infection in newborn babies are different from those in older children In the baby, almost any sign could be caused by a serious infection in the blood Possible signs are

- does not suck well
- seems very sleepy
- very pale (anemic)
- vomiting or diarrhea
- fever or low temperature (below 35°)
- swollen belly
- yellow skin (jaundice)
- fits (convulsions)
- times when the baby turns blue

Each of these signs may be caused by something other than septicemia, **but if the baby has several of these signs at once, septicemia is likely.**

Newborn babies do not always have a fever when they have a serious infection The temperature may be high, low, or normal

Treatment when you suspect septicemia in the newborn:

- Inject ampicillin (p 399)
- Or inject penicillin
- Be sure the baby has enough liquids Spoon feed breast milk and Rehydration Drink, if necessary (see p 182)
- Try to get medical help.

Infections in newborn babies are sometimes hard to recognize. Often there is no fever. If possible, get medical help. If not, treat with ampicillin as described above. Ampicillin is one of the safest and most useful antibiotics for babies.



THE MOTHER'S HEALTH AFTER CHILDBIRTH

Diet and Cleanliness:

As was explained in Chapter 11, after she gives birth to a baby, **the mother can and should eat every kind of nutritious food she can get.** She does not need to avoid any kind of food Foods that are especially good for her are milk, cheese, chicken, eggs, meat, fish, fruits, vegetables, grains, beans, groundnuts, etc If all she has is chapatties, rice and dal she should eat them together at each meal Milk and other dairy products help the mother make plenty of milk for her baby

The mother can and should bathe in the first few days after giving birth In the first week it is better if she bathes with a wet towel and does not go into the water **Bathing is not harmful following childbirth.** In fact, women who let many days go by without bathing may get infections that will make their skin unhealthy and their babies sick

During the days and weeks following childbirth, the mother should:

eat nutritious foods and **bathe regularly.**





Childbirth Fever (Infection after Giving Birth):

Sometimes a mother develops fever and infection after childbirth, usually because the midwife was not careful enough to keep everything very clean or because she put her hand inside the mother

The signs of childbirth fever are: chills or fever, headache or low back pain, sometimes pain in the belly, and a foul-smelling or bloody discharge from the vagina

Treatment:

Vaginal wash with warm water and vinegar or potassium permanganate will help (p 286) She should do it three times a day till she is better. Penicillin other antibiotics (ampicillin or sulfadiazine) may be used instead

Childbirth fever can be very dangerous.
If the mother does not get well soon, get medical help.

CARE OF THE BREASTS

Taking good care of the breasts is important for the health of both the mother and her baby Breast feeding should be started the same day the baby is born At first the baby may not suck much, but this lets the mother's body get used to his sucking, and helps prevent sore nipples So . .

BEGIN BREAST FEEDING THE SAME DAY THE BABY IS BORN.

The milk that the breast makes for the first two days is called *colostrum* This is thin and watery Often mothers believe that this milk has gone bad So they do not feed the baby with this milk This is not true Colostrum contains a lot of antibodies in it which protect the baby against infections It also has a lot of proteins If the baby starts sucking on the first day, the breasts will also produce more milk

Normally, the breasts make as much milk as the baby needs If the baby empties them, they begin to make more If the baby does not empty them, soon they make less But when a baby gets sick and stops sucking, after a few days the mother's breasts stop making milk So when the baby is able to suck again, and needs a full amount of milk, there may not be enough For this reason,

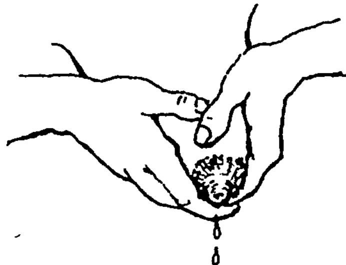
When a baby is sick and unable to take much milk, it is important that the mother keep producing lots of milk by milking her breasts with her hands.

TO MILK YOUR BREASTS:

Take hold of the breast way back, like this,



then move your hands forward, squeezing,



and finally, squeeze the milk out of the nipple.



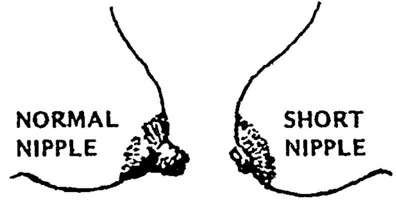
Another reason it is important to milk the breasts when the baby stops sucking is that this keeps the breasts from getting too full When they are too full, they are painful A breast that is painfully full is more likely to develop an abscess Also, the baby may have trouble sucking them even if he wants to

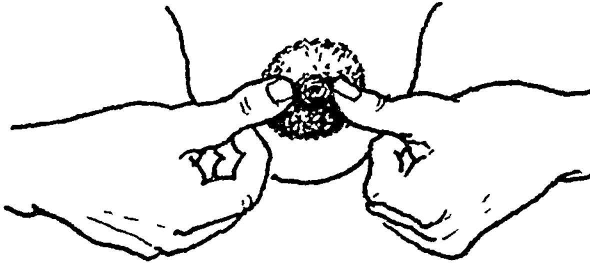
When your baby is too weak to suck, squeeze milk out of your breasts by hand and give it to the baby by spoon or dropper.

Always keep your breasts clean. Before breast feeding your baby, wipe your nipples with a clean, moist cloth Do **not** use soap each time you clean your nipples, as this may lead to cracking of the skin, sore nipples, and infection

Sore Nipples:

Sore nipples may develop when the baby bites on the nipple instead of taking the whole thing into his mouth. This is most likely to happen in women who have short nipples.





Prevention:

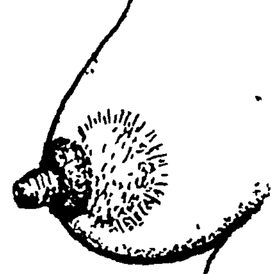
If a woman with short nipples squeezes her nipples like this several times a day during pregnancy, this will make it easier for her child to suck, and she will be less likely to get sore nipples

Treatment:

It is important to keep breast feeding the baby, even though this hurts First let him suck the side that is least sore Only stop breast feeding if the nipple oozes a lot of blood or pus In this case, milk the breast by hand until the nipple heals When the baby feeds again on the breast, be sure the whole nipple enters his mouth

Breast Abscess (Infection Inside the Breast, Mastitis):

A breast abscess may result from an infection that enters through a sore or cracked nipple This is most common during the first weeks or months of breast feeding



Signs:

Part of the breast becomes hot, red, swollen, and very painful Lymph nodes in the armpit are often sore and swollen A severe abscess sometimes bursts and drains pus

Prevention:

- Keep the breast clean If a sore nipple or painful cracks develop, breast feed the baby for shorter periods, but more often
- Also put a little vegetable oil or baby oil on the nipples after each feeding

Treatment:

- Let the baby continue to feed from the abscessed breast, or milk it by hand, whichever is less painful
- Use hot compresses to ease the pain Also take aspirin
- Take an antibiotic as for childbirth fever (see p 322)

Different kinds of breast lumps:

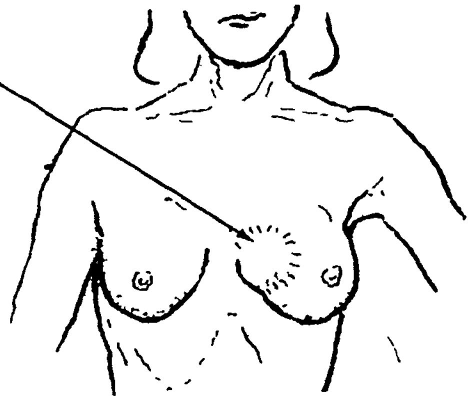
A painful, hot lump in the breast of a nursing mother is probably a breast abscess (infection).
A painless breast lump may be cancer.

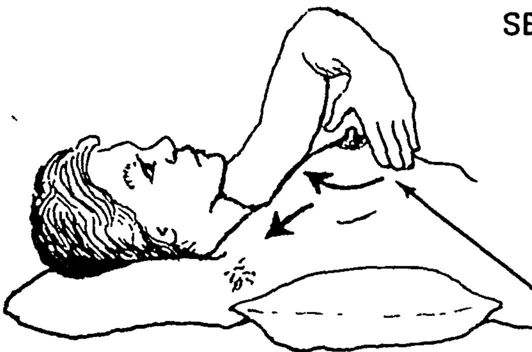
Breast Cancer:

Cancer of the breast is fairly common in women, and is always dangerous Successful treatment depends on spotting the first sign of possible cancer and getting medical care soon Surgery is usually necessary

Signs of breast cancer:

- The woman may notice a lump, often in this part of the breast
- Or the breast may have an abnormal dent or dimple—or many tiny pits like the skin of an orange
- Often there are large but painless lymph nodes in the armpit
- The lump grows slowly.
- At first it usually does not hurt or get hot Later it may hurt

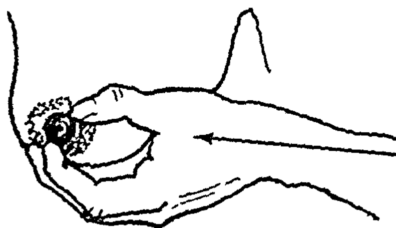




SELF-EXAMINATION OF THE BREASTS:

Every woman should learn how to examine her own breasts for possible signs of cancer Once a month

- Look at your breasts carefully for any new difference between the two in size or shape Try to notice any of the above signs
- While lying with a pillow or folded blanket under your back, feel your breasts with the flat of your



fingers Press your breast and roll it beneath your finger tips Start near the nipple and go around the breast and up into the armpit

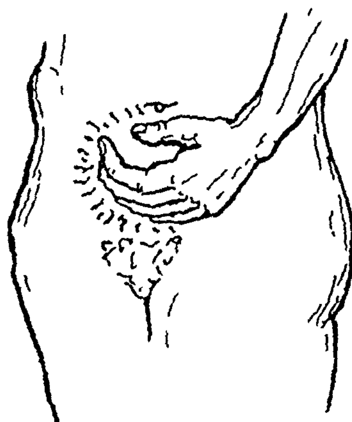
◆ Then squeeze your nipples and check whether blood or a *discharge* comes out

If you find a lump or any other abnormal sign, get medical advice Many lumps are not cancer, but it is important to find out early.

LUMPS OR GROWTHS IN THE LOWER PART OF THE BELLY

The most common lump is, of course, caused by the normal development of a baby Abnormal lumps or masses may be caused by

- a cyst or watery swelling in one of the ovaries
- by a baby that has accidentally begun to develop outside of the womb (ectopic pregnancy), or
- cancer



All 3 of these conditions are usually painless or mildly uncomfortable at first, and become painful later All require medical attention—usually surgery If you find any unusual, gradually growing lump, seek medical advice

Cancer of the Womb:

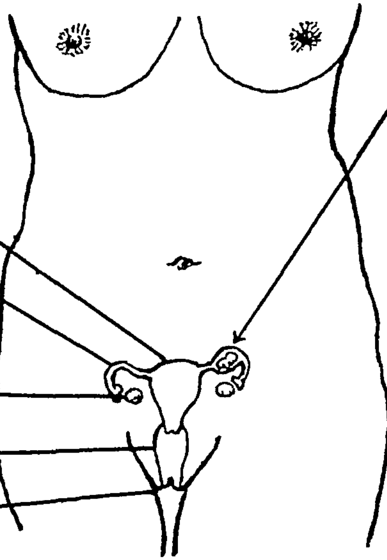
Cancer of the uterus (womb), cervix (neck of the womb), or ovaries is most common in women over 40 The first sign may be *anemia* or unexplained bleeding

Later, an uncomfortable or painful lump in the belly may be noticed

At the first suspicion of cancer, seek medical help.

Home remedies are not likely to help

Out-of-Place or *Ectopic* Pregnancy:



Sometimes a baby begins to form outside the womb, in one of the tubes that comes from the ovaries

There may be abnormal menstrual bleeding together with signs of pregnancy—also cramps low in the belly and a tender lump outside the womb.

A baby that begins to form out of place usually cannot live Ectopic pregnancy requires surgery in a hospital. **If you suspect this problem, seek medical advice soon, as dangerous bleeding could start any time**

MISCARRIAGE (SPONTANEOUS ABORTION)

A miscarriage is the loss of the unborn baby Miscarriages are most frequent in the first 3 months of pregnancy Usually the baby is imperfectly formed, and this is nature's way of taking care of the problem

Most women have one or more miscarriages in their lifetime Many times they do not realize that they are having a miscarriage They may think their period was missed or delayed, and then came back in a strange way, with big blood clots A woman should learn to know when she is having a miscarriage, because it could be dangerous

A woman who has heavy bleeding after she has missed one or more periods probably is having a miscarriage.

A miscarriage is like a birth in that the embryo (the beginning of the baby) and the placenta (afterbirth) must both come out Bleeding often continues until both are completely out

The embryo of a miscarriage may be no longer than 1 or 2 centimeters

30 days



60 days



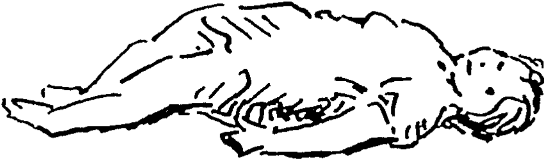
Treatment

If there is no heavy bleeding, generally there is no problem The woman should stay in bed, and the miscarriage should be treated with the same care and precautions as a birth

If there is heavy bleeding, or bleeding continues for many days

- Get medical help A simple operation may be needed to clean out the womb (dilatation and curettage or D and C)
- Stay in bed until the heavy bleeding stops and for 2 or 3 days after the miscarriage
- If the bleeding is extreme, follow the instructions on page 313
- If fever or other signs of infection develop, treat as for **Childbirth Fever** (see p 322)

If you have bleeding and suspect a miscarriage,



remain lying down until everything comes out, and the bleeding stops

HIGH RISK MOTHERS AND BABIES

A note to midwives or health workers and anyone who cares:

Some women are more likely to have difficult births and problems following birth, and their babies are more likely to be underweight and sick Often these are mothers who are single, homeless, poorly nourished, very young, mentally slow, or who already have malnourished or sickly children





CHAPTER

20 FAMILY PLANNING— HAVING THE NUMBER OF CHILDREN YOU WANT

THIS FAMILY HAS MANY CHILDREN



THIS FAMILY HAS FEW CHILDREN



Some mothers and fathers want a lot of children Where many children die young, parents feel they need a large number of children to help with work and to be sure some remain to care for them when they grow old

Many mothers and fathers have come to realize that to have a large family may bring serious problems For example

- With many children it is harder to feed, clothe, and educate them all well
- When a mother has child after child, without much space between, she often becomes weak Her breasts produce less milk Her babies are more likely to die (see p 317) Also, after many pregnancies the danger is greater that she will die in childbirth, leaving many motherless children
- If a man and woman have a lot of children, when the children grow up there may not be enough land for all of them to grow the food their families need Children may begin to die of hunger This is already happening in many areas

Although most, if not all, hunger in the world today could be prevented if land and wealth were distributed fairly, the growing number of people is part of the problem. If people keep having big families, the day will come when there is not enough land or food to go around—even if people learn to share

The situation will get better only when people—as individuals, as families, and as communities—come to understand the many factors affecting their health and take action for the good of their children and future generations

FAMILY PLANNING AND BIRTH CONTROL 

Different parents have different reasons for wanting to limit the size of their family Some young parents may decide to delay having any children until they have worked and saved enough so that they can afford to care for them well. Some parents may decide that a small number of children is enough, and they never want more Others may want to space their children several years apart, so that both the children and their mother will be healthier

Family planning is having the number of children you want, when you want them.

When a man and woman decide when they want to have children, and when they do not, they can choose one of several methods to prevent the woman from becoming pregnant, for as long as she wishes These are methods of ***birth control*** or ***contraception.***

Couples who want children but are not able to have them should see page 288.

IS BIRTH CONTROL GOOD—AND IS IT SAFE?

1. Is it good?

In some parts of the world there has been a lot of discussion about whether different forms of birth control are good or are safe Some religions have been against any form of birth control except trying not to have sex together. But an increasing number of religious leaders are realizing how important it is to the health and well-being of families and communities that people be able to use easier and surer methods of birth control

Also, in many places women who get pregnant when they do not want a child will go for an ***abortion,*** to have the developing baby destroyed or removed. Where these intentional or **provoked abortions** are legal, they can be done in health centers under sanitary conditions, and they are not usually dangerous to the woman if done within **three months** But many women get abortions done **secretly** often in dirty conditions and performed by unskilled persons Thousands of women die from such abortions If women are given the chance to use birth control methods, and information to use them wisely, most provoked abortions, would not be necessary Much needless suffering and death could be prevented.

Some people feel that much of the push for family planning comes from rich countries or persons who want to keep their control over the poor by controlling their numbers The rich and powerful find it hard to accept that the way they manage the earth's land and resources strongly contributes to world hunger. They see only the growing numbers of people In some countries professionals sterilize poor women by force or experiment on them with new or unsafe methods For all these reasons social reformers and spokesmen for the poor often protest against birth control.

This is unfortunate. The object of attack should not be birth control, but rather its misuse. The attack should be against social injustice and the unfair distribution of land and wealth If used well, birth control can in fact help the poor gain strength to work for their basic human rights But the decisions and responsibility for family planning must be in the hands of the people themselves

Decide for yourself if and how you want to plan your family. Do not let anyone else decide for you.

2. Is it safe?

Whether or not different forms of birth control are safe has been much discussed Often those who are against birth control for religious or political reasons try to scare women by talking about the risks Some methods do have certain risks However, the important thing all women should realize is that **birth control is safer than pregnancy,** especially after a woman has had many children

The risk of serious illness or death resulting from pregnancy is many times greater than the risks involved in using any of the common methods of birth control.

There is much talk about the risks of taking birth control pills (oral contraceptives) But the risks with pregnancy are many times greater. The pill works so well in preventing pregnancy that for most women it is safer—in terms of protecting their lives—than any of the other 'less risky' but less effective methods

CHOOSING A METHOD OF BIRTH CONTROL

On the following pages several methods of birth control are described. Some work better for some people than others Study these pages, and talk with your midwife, health worker, or doctor about what methods are available and are likely to work best for you Differences in **effectiveness, safety, convenience, availability,** and **cost** should be considered Husbands and wives should decide together, and share the responsibility.

AVERAGE EFFECTIVENESS OF DIFFERENT FORMS OF BIRTH CONTROL

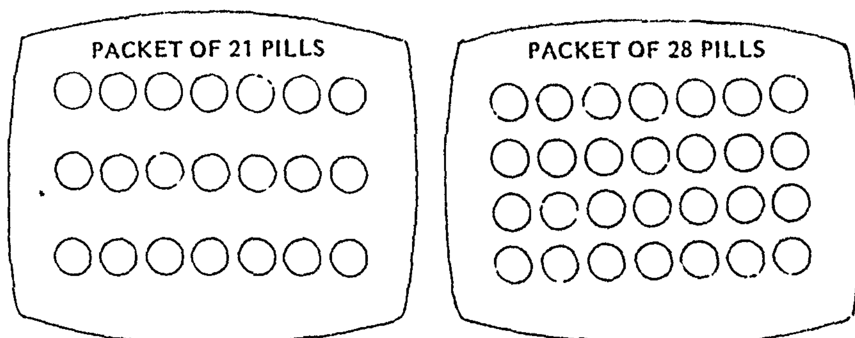
Of each 20 women using this method . .	on the average this many are likely to get pregnant in spite of the method . .		and this many must (or should) stop the method because of problems
PILL			
CONDOM			
DIAPHRAGM			
FOAM			
I U D			
PULLING OUT			
STERILIZATION			*
SPONGE			
RHYTHM		COMBINED	
MUCUS			

* With sterilization, problems occasionally result from surgery but the method is permanent.

BIRTH CONTROL PILLS (ORAL CONTRACEPTIVES)

When taken correctly, the 'pill' is one of the most effective methods for avoiding pregnancy. However, certain women should not take birth control pills if they can use another method (see p.334). If possible, birth control pills should be given by health workers, midwives, or other persons trained in their use

The pills usually come in packets of 21 or 28 tablets. The packets of 21 are often less expensive, and of these, some brands are cheaper than others The amount of medicine differs in different brands To pick the kind that is right for you, see the GREEN PAGES, page 380



How to take the pills—packet of 21:

Take the first pill on the fifth day from the beginning of your period, counting the first day of the period as day 1 Then take 1 pill every day until the packet is finished (21 days).

After finishing the packet, wait 7 days before taking any more pills. Then begin another packet, 1 pill each day

This way, you will take the pills for 3 weeks out of each month, then go 1 week without taking any Normally, the menstrual period will come during the week when the pill is not taken Even if the period does not come, start the new packet 7 days after finishing the last one

If you do not want to get pregnant, it is important to take the pills as directed —1 every day. If you forget to take the pill one day, take 2 the next day

Packet of 28 pills.

Take the first pill on the fifth day of the period, just as with the packets of 21 Take 1 a day Seven of the pills will probably be a different size and color Take these pills last (one a day) after the others have all been taken The day after you finish the packet of 28, start another packet Take 1 a day without ever missing a day, packet after packet, for as long as you do not want to become pregnant

No special diet must be followed when taking the pill. Even if you happen to get sick with a cold or something else while taking birth control pills, go right on taking them If you stop taking the pills before the packet is used up, you may become pregnant

Side effects:

Some women get a little morning sickness, swelling of the breasts, or other signs of pregnancy when they first start taking the pill This is because the pill contains the same chemicals (hormones) that a woman's body puts into her blood when she is pregnant These signs do not mean she is unhealthy or should stop taking the pill They usually go away after the first 2 or 3 months To relieve morning sickness, see page 294.

Some women may bleed a different amount than usual in their monthly period when they are taking the pill. These changes are usually not important Sometimes they can be corrected by changing to a brand with a different amount of hormone This is discussed in the GREEN PAGES (p.426)

"Is it dangerous to take oral contraceptives?"

Like all medicines, birth control pills occasionally cause serious problems in certain persons (see next pages). The most serious problems related to the pill are blood clots in the heart, lungs, or brain (see stroke, p. 373). **However, the chance of getting dangerous clots is even higher when women get pregnant than when they take the pill.**

Death related to taking the pill is rare On the average, pregnancy and childbirth are 50 times as dangerous as taking the pill

Of 15,000 women who become pregnant, 75 are likely to die from problems of pregnancy or childbirth.



Of 15,000 women who take birth control pills, only 1 is likely die from problems related to having taken the pills



Conclusion:

IT IS MUCH SAFER TO TAKE THE PILL THAN TO BECOME PREGNANT.

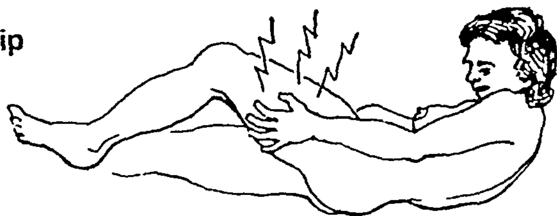
For most women, birth control pills are relatively safe Certainly they are far safer than becoming pregnant However, **for some women both pregnancy and taking birth control pills have a higher risk. These women should use other methods of birth control.**

Who Should Not Take Birth Control Pills?



A woman who has any of the following signs should **not** take oral (or injected) contraceptives

- **Deep or steady pain in one leg or hip** This may be caused by an inflamed vein (phlebitis or blood clot) Do not use birth control pills (Women with **varicose veins** that are not inflamed can usually take birth control pills without problems But they should stop taking them if the veins become inflamed)



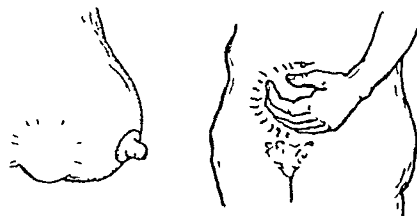


- **Stroke.** A woman who has had any signs of a stroke (p 373) should not take the pill



- **Hepatitis (p.209), cirrhosis (p.374), or other liver disease.** Women with these problems, or whose eyes had a yellow color during pregnancy, should not take the pill It is better not to take oral contraceptives for one year after having hepatitis

- **Cancer.** If you have had or suspect cancer of the breast or womb, do not use oral contraceptives Before beginning oral contraceptives, examine your breasts carefully (see p 325) In some health centers you may also be able to get a simple test (Pap smear) to check for cancer of the *cervix* or opening of the womb Birth control pills do not cause cancer, but if cancer of the breasts or womb already exists, the pill can make it worse



- A woman who is **breast feeding her baby should not take birth control pills**

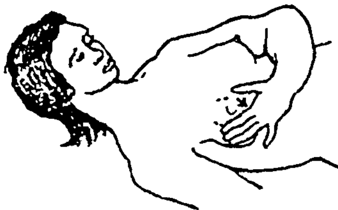
Some health problems may be made worse by oral contraceptives If you have any of the following problems, it is better to use another method if you can

- **Migraine** (p 199) Women who suffer from true migraine should not take oral contraceptives But simple headache that goes away with aspirin is no reason not to take the pill
- **Urinary infection with swelling of the feet** (p 278)
- **Heart disease** (p 371)
- **A great deal of blood loss during the menstrual period.**

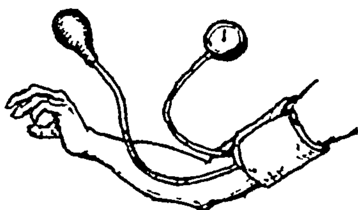
If you suffer from asthma, tuberculosis, diabetes, or epilepsy, it is best to get medical advice before taking birth control pills However, most women with these diseases can take oral contraceptives without harm

Precautions Women Should Take when Using Birth Control Pills

1 Examine the breasts carefully every month for lumps or possible signs of cancer (see page 325)



2 Have your blood pressure measured every 6 months



3 Watch for any of the problems mentioned on page 334, especially

- Severe and frequent migraine headaches (p 199)
- Dizziness, headache, or loss of consciousness that results in difficulty in seeing, speaking, or moving part of the face or body (see Stroke, p 373)
- Pain with inflammation in a leg or hip (chance of a blood clot).
- Severe or repeated pain in the chest (see Heart Problems, p. 371).

If one of these problems develops, stop taking the pill and get medical advice Avoid pregnancy by using another method, as these problems also make pregnancy especially dangerous

Questions and Answers about Birth Control Pills

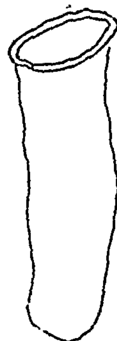
Question	Answer
Some people claim birth control pills cause cancer Is this true?	**No! However, if cancer of the breast or womb already exists, taking the pill may make the tumor grow faster.**
Can a woman have children again if she stops taking the pill?	**Yes. (Sometimes there is a delay of a month or 2 before she can become pregnant.)**
Is the chance of having twins or defective children greater if a woman has used oral contraceptives?	**No. The chances are the same as for women who have not taken the pill.**
Is it true that a mother's breasts will dry up if she starts taking birth control pills?	**Most women are not affected. But some mothers produce less milk, or stop making it altogether, when they start taking the pill.**

For this reason it is a good idea for women who are breast feeding to use another method of birth control during the first 6 months, and then change to the pill.

For information on birth control pills, see the Green Pages—p 425.

OTHER METHODS OF BIRTH CONTROL

THE CONDOM (also called 'prophylactic', 'rubber', or sheath) is a narrow rubber or latex bag that the man wears on his penis while having sex Usually it works well to prevent pregnancy It also helps prevent spreading of venereal diseases, but is not a complete safeguard

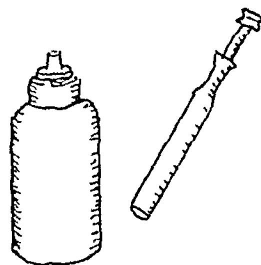


You can buy condoms in most pharmacies Some are cheaper than others Before using it, fill it with water to make sure it does not leak.

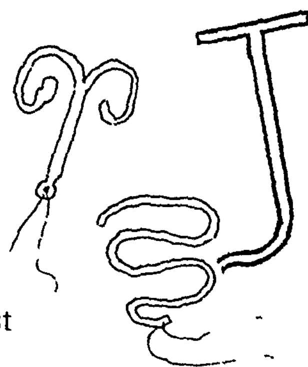
THE DIAPHRAGM is a shallow cup made of soft rubber A woman wears it in her vagina while having sexual relations It should be left in for at least 6 hours afterward It is a fairly sure method—especially if used together with a contraceptive cream or jelly A health worker or midwife should help fit the diaphragm, as different women need different sizes Check the diaphragm regularly for holes and get a new one each year They are not expensive



CONTRACEPTIVE FOAM comes in a tube or can The woman puts it into her vagina with a special applicator It must be applied no longer than 1 hour before having sex, *and left in for at least 6 hours afterward* The application should be repeated before each time the couple has sex, even if this is several times in one night It is a fairly sure method if used correctly, but a nuisance



THE INTRAUTERINE DEVICE (IUD) is a plastic (or sometimes metal) object that a specially trained health worker or midwife places inside the womb While in the womb, it prevents pregnancy IUDs fall out of some women After every menstrual period check if the IUD is still in place In other women they cause pain, discomfort, and sometimes serious problems, but for some women they give no trouble at all For these women, the IUD may be the simplest and most economical method

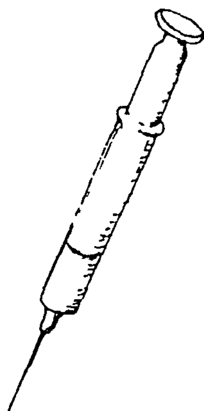


WITHDRAWAL OR PULLING OUT (COITUS INTERRUPTUS) is a method in which the man pulls his penis out of the woman before the sperm comes This method is perhaps better than none, but is disturbing to the couple and does not always work, because some sperm often leaks out ahead of time and can cause pregnancy

Menstrual Regulation: If a woman thinks she is pregnant, she can get menstrual regulation done **within 10 days of missing her periods,** at a health centre Do not use this as a birth control method Use another method which can prevent pregnancy

METHODS FOR THOSE WHO NEVER WANT TO HAVE MORE CHILDREN

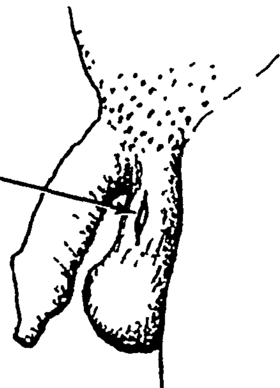
INJECTIONS. There are special injections to prevent pregnancy *Depo-Provera* is one An injection is usually given every 3 months Sometimes women cannot become pregnant ever again after they have had these injections, so generally only women who will never want more children should use this method Side effects and precautions are similar to those for birth control pills



Injections are useful for women who are sure they do not ever want to become pregnant again—especially those who have trouble remembering to take pills or for other reasons have difficulty taking them

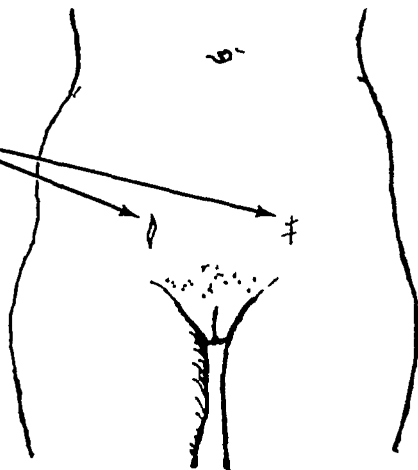
STERILIZATION. For those who never want to have more children, there are fairly safe, simple operations for both men and women In our country these operations are free Ask at the health center

- For men, the operation is called a vasectomy It can be done in a doctor's office or a health center Small cuts are made here so that the tubes from the man's testicles can be cut and tied



The operation has no effect at all on the man's sexual ability or pleasure His fluid comes just the same, but has no sperm in it

- For women, the operation is called a tubal ligation, which means to tie the tubes It can be done simply and quickly, and usually without putting the woman to sleep One method is to make very small cuts in the lower belly so that the tubes coming from the ovaries, or egg-makers, can be cut and tied



This operation has no effect on the women's menstrual periods or sexual ability, and may make having sex more pleasant because she does not have to worry about becoming pregnant

HOME METHODS FOR PREVENTING PREGNANCY

Every land has 'home remedies' for preventing or interrupting pregnancy Unfortunately, most either do not work or are dangerous For example, some women think that to wash out the vagina or to urinate after having sex will prevent pregnancy, **but this is not true.**

THE SPONGE METHOD Here is a home method that is not harmful and sometimes works You cannot be sure it will prevent pregnancy every time, but it can be used when no other method is available



You will need a sponge and either **vinegar, lemons,** or **salt.** Either a sea sponge or an artificial sponge will work If you do not have a sponge, try a ball of cotton, or soft cloth

- Mix

  2 tablespoons vinegar in 1 cup water

  or

  1 teaspoon lemon juice in 1 cup water

  or

  1 spoon of salt in 4 spoons water

- Wet the sponge with one of these liquids
- Push the wet sponge deep into your vagina before having sex You can put it in up to an hour before
- Leave the sponge in at least 6 hours after having sex Then take it out If you have trouble getting it out, next time tie a ribbon or piece of string to it that you can pull



The sponge can be washed and used again, many times

You can make up the liquid in advance and keep it in a bottle

BREAST FEEDING While a woman is breast feeding her baby she is less likely to become pregnant—especially when breast milk is the only food her baby receives The chance of her becoming pregnant is much greater after 4 to 6 months, when the baby begins to get other foods in addition to breast milk To be more sure she will not become pregnant, the mother who is breast feeding should begin some method of birth control when the baby is 3 to 4 months old The earlier she begins the surer it will be (Before the baby is 6 months old, a method other than birth control pills is better because the pills cause some women to produce less milk)

METHODS THAT DO NOT WORK VERY WELL

THE RHYTHM METHOD.

This method is not very sure to prevent pregnancy, but it has the advantage of not costing anything It is more likely to work for a woman whose periods come very regularly, more or less once every 28 days Also, the husband and wife must be willing to pass one week out of each month without having sex the regular way

Usually a woman has a chance of becoming pregnant only during 8 days of her monthly cycle—her 'fertile days' These 8 days come midway between her periods, beginning 10 days after the first day of menstrual bleeding To avoid getting pregnant, a woman should not have sex with her man during these 8 days During the rest of the month, she is not likely to get pregnant

To avoid confusion the woman should mark on a calendar the 8 days she is not to have sex

For example Suppose your period begins on the 5th day of May

Mark it like this

Then count 10 days. Starting with the 10th day, put a line under the 8 days that follow, like this

MAY						
			1	2	3	4
(5)	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

During these 8 'fertile days', do not have sexual relations.

Now suppose your next period begins on the first of June Mark it the same way, like this

Once again count off 10 days and underline the following 8 days in which you will not have sexual contact

JUNE						
						(1)
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

If the woman and her husband carefully avoid having sex together during these 8 days each month, it is possible that they will go years without having another child However, few couples are successful for very long This is not a very sure method, unless used in combination with another method such as a diaphragm or condoms

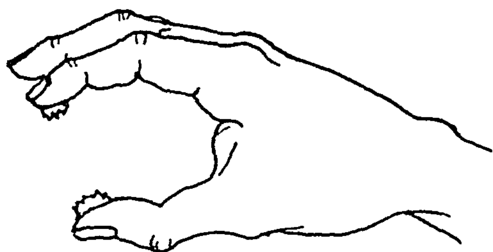
THE MUCUS METHOD

This is a variation of the rhythm method that is being encouraged by some religious groups It works fairly well for some people but not for others In general it cannot be considered a very sure way of preventing pregnancy, but it costs nothing and has no other risks than those that come with pregnancy itself

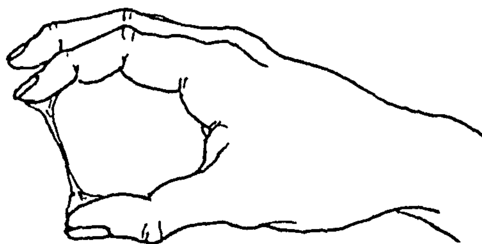
Every day, except during her period, the woman should examine the mucus from her vagina

Take a little mucus out of your vagina with a clean finger and try to make it stretch between your thumb and forefinger, like this.

As long as the mucus is sticky like paste—not slippery or slimy—you probably cannot become pregnant, and can continue to have sexual relations



When the mucus begins to get slippery or slimy, like raw egg, or if it stretches between your fingers, you may become pregnant if you have sexual relations—so **do not have sex when the mucus is slippery or stretches.**



The mucus will usually become slippery during a few days midway between your periods These are the same days you would not have sex with your man if you were using the rhythm method

To be more sure, use the mucus and rhythm methods together To be still more sure, see below

Combined Methods:

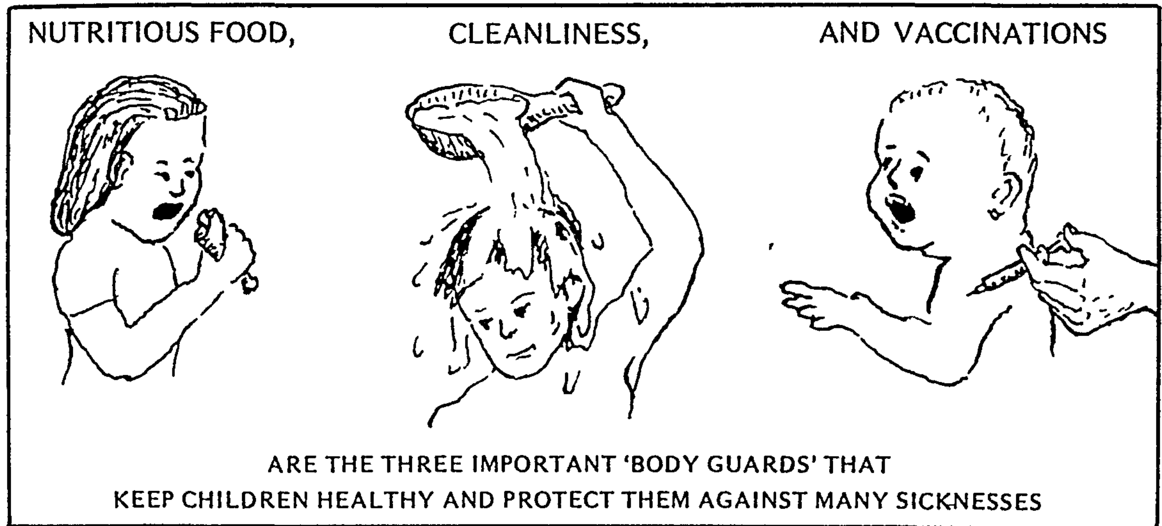
If you want to be more certain not to become pregnant, it often helps to use 2 methods at the same time The rhythm or mucus method combined with the use of a condom, diaphragm, foam, or sponge is surer than any of these methods alone Likewise, if a man uses condoms and the woman a diaphragm or foam, the chance of pregnancy is very low

Strength lies not in numbers, but in having enough to eat.
Consider planning your family.

CHAPTER 21

HEALTH AND SICKNESSES OF CHILDREN

WHAT TO DO TO PROTECT CHILDREN'S HEALTH



ARE THE THREE IMPORTANT 'BODY GUARDS' THAT KEEP CHILDREN HEALTHY AND PROTECT THEM AGAINST MANY SICKNESSES

Chapters 11 and 12 tell more about the importance of nutritious food, cleanliness, and vaccination Parents should read these chapters carefully and use them to help care for—and teach—their children The main points are briefly repeated here

Nutritious Food:

It is important that children eat the most nutritious foods they can get, so that they grow well and do not get sick

The best foods for children at different ages are

- in the first 2 months breast milk and nothing more
- from 4 months to 1 year breast milk and also other nutritious foods—such as mashed-up cereals beans, cooked vegetables, eggs, meat, and cooked fruits
- from 1 year on each meal should include body-building and protective foods—especially milk and foods made from milk, beans, lentils, nuts, fruits, vegetables eggs, chicken, fish, and meat. These should be balanced with plenty of energy foods like rice, maize, wheat, potatoes, or cassava
- Above all, children should get **enough** to eat
- All parents should watch for signs of malnutrition in their children and should give them the best food they can

Cleanliness:

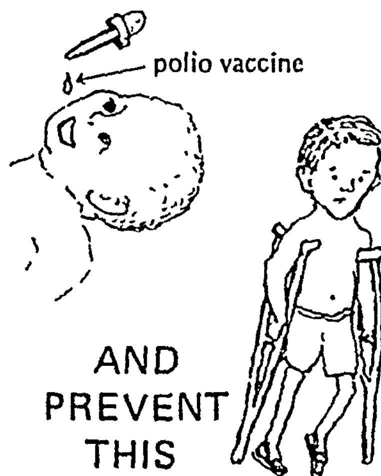
Children are more likely to be healthy if their village, their homes, and they themselves are kept clean Follow the Guidelines of Cleanliness explained in Chapter 12 Teach children to follow them—and to understand their importance Here the most important guidelines are repeated

- Bathe children and change their clothes often
- Teach children always to wash their hands when they get up in the morning, after they have a bowel movement, and before they eat or handle food
- Make latrines or 'outhouses'—and teach children to use them.
- Do not let children go barefoot, have them wear sandals or shoes
- Teach children to brush their teeth, and do not give them a lot of candies, sweets, or carbonated drinks
- Cut fingernails very short
- Do not let children who are sick or have sores, scabies, lice, or ringworm sleep with other children or use the same clothing or towels
- Treat children quickly for scabies, ringworm, intestinal worms, and other infections that spread easily from child to child
- Do not let children put dirty things in their mouths or let dogs lick their *faces*
- Keep pigs, dogs, and chickens out of the house
- Use only pure or boiled water for drinking This is especially important for babies

Vaccinations:

Vaccinations protect children against many of the most dangerous diseases of childhood—whooping cough, diphtheria, tetanus, smallpox, polio, measles, and tuberculosis

Children should be given the different vaccinations during the first months of life, as shown on page 175 Polio drops should be first given no later than 2 months of age, because the risk of developing infantile paralysis (polio) is highest in babies under 1 year old.



Important: For complete protection, the DPT (diphtheria, whooping cough, tetanus) and polio vaccines must be given once a month for 3 months and once again a year later

Tetanus of the newborn can be prevented by vaccinating mothers against tetanus during pregnancy (see p 296)

Be sure your children get all the vaccinations they need.

CHILDREN'S GROWTH—AND THE 'UNDER FIVE CARD



A healthy child grows steadily If he eats enough nutritious food, and if he has no serious illness, a child gains weight each month.

A child who grows well is healthy.

A child who gains weight more slowly than other children, stops gaining weight, or is losing weight is not healthy He may not be getting enough of the right kinds of foods, or he may have a serious illness, or both

Two good ways to check whether a child is healthy and is getting enough nutritious foods is to check his mid-arm circumference(p 132) every month and to weigh him each month and see if he gains weight normally If a monthly record of the child's weight is kept on a Road to Health Chart, it is easy to see at a glance whether or not the child is gaining weight normally

On the next page is a typical Under Five Card This chart can be cut out and copied Or larger, ready-made cards can be obtained (in Hindi, English and all other Indian languages from

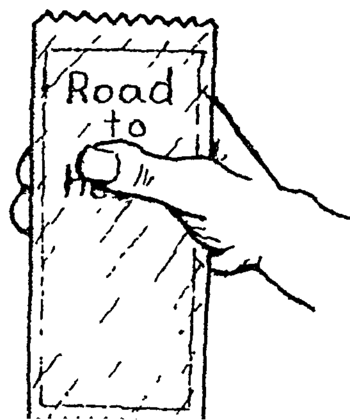
Voluntary Health Association of India
40, Institutional Area
South of IIT
New Delhi-110016
India

(The strip for measuring the arm circumference is also available at the above address)

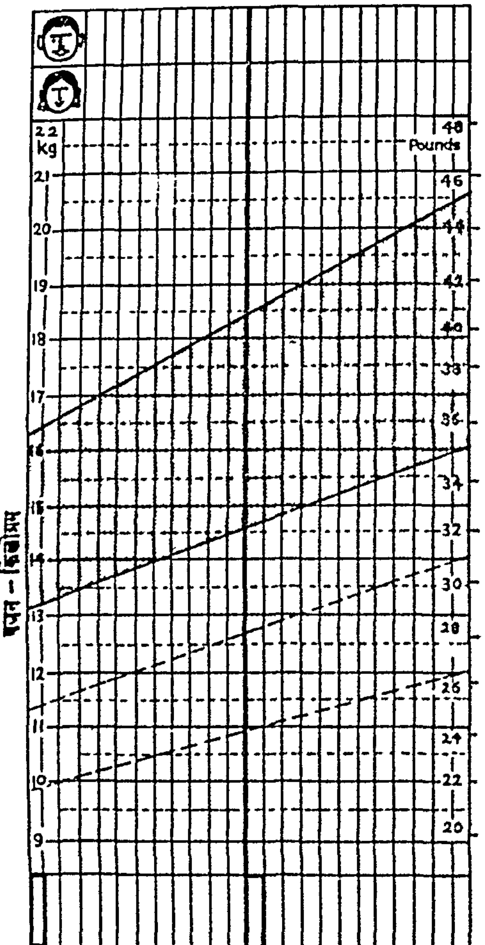
Similar charts are produced in local languages by the Health Departments in many countries

It is a good idea for every mother to keep an Under Five Card for each of her children under 5 years of age If there is a health center or under-fives clinic' nearby, she should take her children, with their charts, to be weighed and to have a 'check-up' each month The health worker can help explain the Chart and its use

To protect the Under Five Card, keep it in a plastic envelope, like this →



SIDE ONE



The mother keeps this card in a strong plastic envelope

Coordinating Agency for Health Planning,
C 45 South Extension Part - 2, New Delhi - 110049

CHILD HEALTH RECORD 0 - 6 YEARS

बाल आरोग्य कार्ड

वय – ०-६

हे कार्ड चार प्लास्टिकच्या पिशवीत ठेवावे

आरोग्य केंद्र CLINIC	मुलाचा नंबर CHILDS No
मुलाचे नाव CHILD'S NAME	मुलगा / मुलगी
आईचे नाव MOTHER'S NAME	धंदा OCCUPATION
बापाचे नाव FATHER'S NAME	धंदा
जन्म तारीख: महीना MONTH / वर्ष YEAR	CASTE OR COMMUNITY जात
घर नंबर HOUSE NO	रस्ता/खेडेगाव STREET VILLAGE
पोस्ट TOWN P O	तालुका TEHSIL TALUK / जिल्हा DIST

BIRTH ORDER जन्म क्रमांक	NAMES OF BROTHERS & SISTERS भावंडांची नावे	AGE वय	हयात/मृत्यु	आरोग्य माहिती STATE OF HEALTH
1				
2				
3				
4				
5				
6				
7				
8				

केव्हा दिले ती तारीख	1	2	3	4	5
क्षय प्रतिबंधक बी सी जी B C G against TB			Mantou test		result
देवी Smallpox					
पक्षघात (पोलीयो) Polio					
डांग्या खोकला घटसर्प धनुर्वात (DPT)					
विषम ज्वर TAB					
इतर Other					
इतर Other					

तारीख रक्त Hb	आजार PROBLEMS	उपचार TREATMENT

HR–1 MARATHI

कुटुंबनियोजना बद्दल दृष्टीकोन
FAMILY PLANNING ATTITUDES

REASONS FOR SPECIAL CARE

विशेष काळजी घेण्याची कारणे

WEIGHT IN KILOGRAMS वजन - किलोग्राम

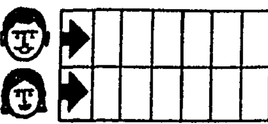
ROAD TO HEALTH आरोग्य मार्ग

I° II° III°

Kg 12 13 14 15

Pounds 4 5 6 7 8 | 9 10 11 12 | 13 14 15 16 17 | 18 20 22 24 26 28 30 32 34 36

पहिलें वर्ष
1st YEAR



जगावर जितके दिवस पाजता येईल तितके दिवस, पाजा त्याच बरोबर चौथ्या महिन्या पासून अन्न द्या

दुसरें वर्ष 2nd YEAR

STARTING AT FOURTH MONTH, START FEEDING THESE FOODS IN ORDER SO THAT CHILD IS EATING ALL FAMILY FOOD BY 18 MONTHS बाळाला चौथ्या महिन्या पासून क्रमाक्रमाने खालील अन्न पदार्थ द्या. म्हणजे १।। वर्षापर्यंत घरातील मोठी माणसे जेवतात ते अन्न घेऊ लागेल

तिसरें वर्ष
3 rd YEAR

चौथे वर्ष
4 th YEAR
निरोगी बालकाचा आहार

निरोगी बाल दिड वर्षापर्यंत आईच्या दुधावर रहाते, पण चार महिन्यानंतर त्याला आईच्या दुधाबरोबरच गव्हाची कांजी बटाटा, केळें वगैरे दुधातून द्यावे सहा महिन्यानंतर त्याला शिजविलेल्या डाळी, दही व भाजीपाला वगैरे द्याव, दहा महिन्यानंतर बाळाला गव्हाची पोळी भाकरी किंवा वरण द्यावे दिड वर्षाचा झाल्यावर आईचे दुध कमी करावे आणि इतर आहारा बरोबरच दिवसातून एकदा किंवा दोनदा पावशेर किंवा अर्धाशेर गाई – म्हशीचे दुध द्यावे हरकत नसल तर चौथ्या महिन्यापासून अंडी आणि इतर मांसाहारी पदार्थ द्या

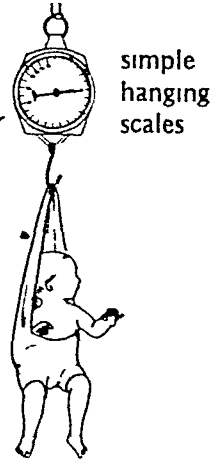
1	2	3	4	5	6	7	8	9	10
दोळी, गव्हाचा भरडा	बटाटे	केळी	अंडी	डाळ भात खिचडी	पालक	हिरवा भाजीपाला	शेंगदाणे	तूर डाळ	गाईचे दुध
Suji Dalia	Potato	Banana	Egg	Khichari	Spinach	Green Vegetable	Groundnut	Beans	Milk

How to Use the Road to Health Chart

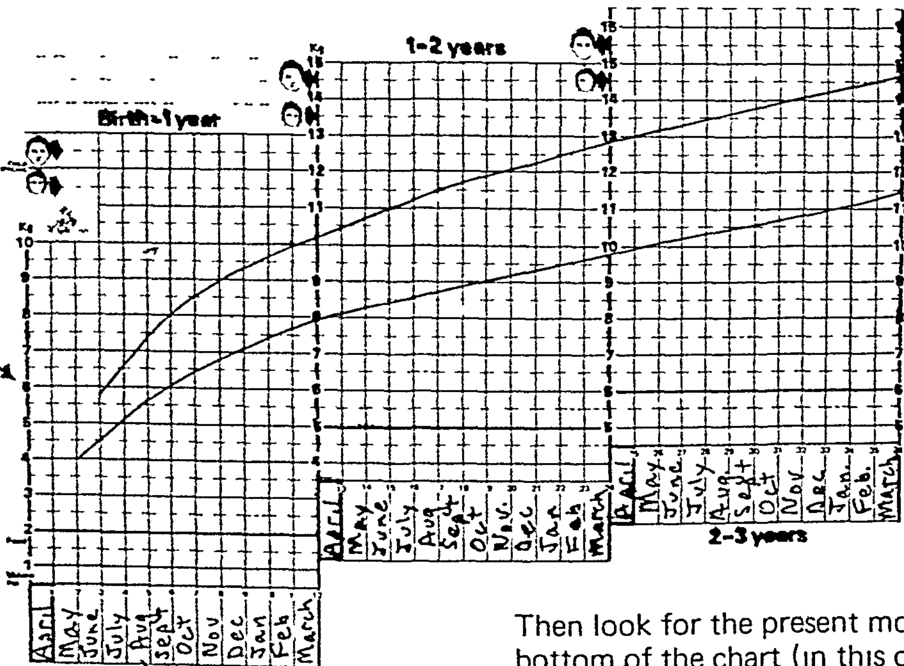
FIRST, write the months of the year in the little squares at the bottom of the chart.

Write the month the baby was born in the first square for each year
This chart shows the baby was born in March.

SECOND, weigh the child
Let us suppose that a child was born in April
It is now August, and the child weighs 6 kilograms



THIRD, look at the card
Kilograms are written on the side of the card
Look for the number of kilograms the child weighs
(in this case, 6)

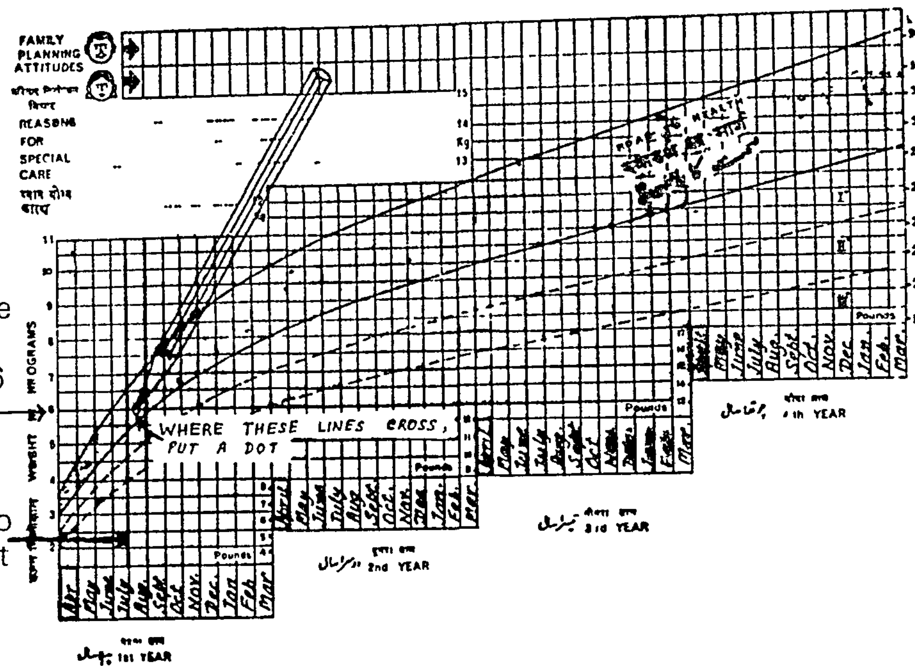


Then look for the present month at the bottom of the chart (in this case, August of the baby's first year)

FOURTH, follow the line that goes out from the 6

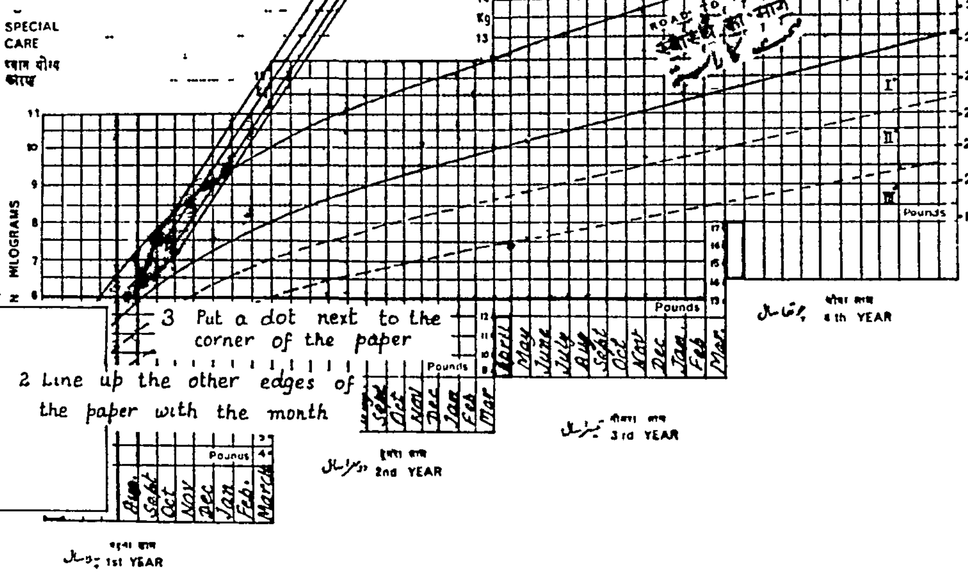
and

the lines that go up from August



It is easy to know where to put the dot if you hold a square piece of paper against the chart

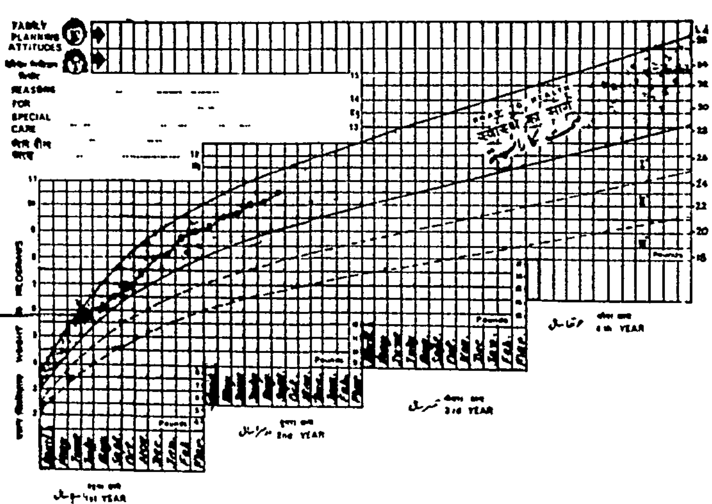
1 Line up one edge of the paper with the child's weight



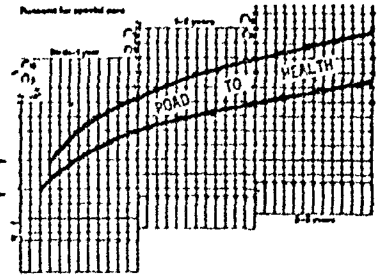
Each month weigh the child and put another dot on the chart

If the child is healthy, each month the new dot will be higher on the chart than the last

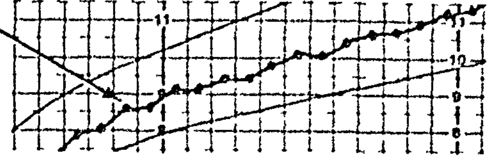
To see how well the child is growing, join the dots with lines



How to Read the Under Five Card



The 2 long curved lines on the chart Mark the Under Five Card that a hild's child's weight should follow



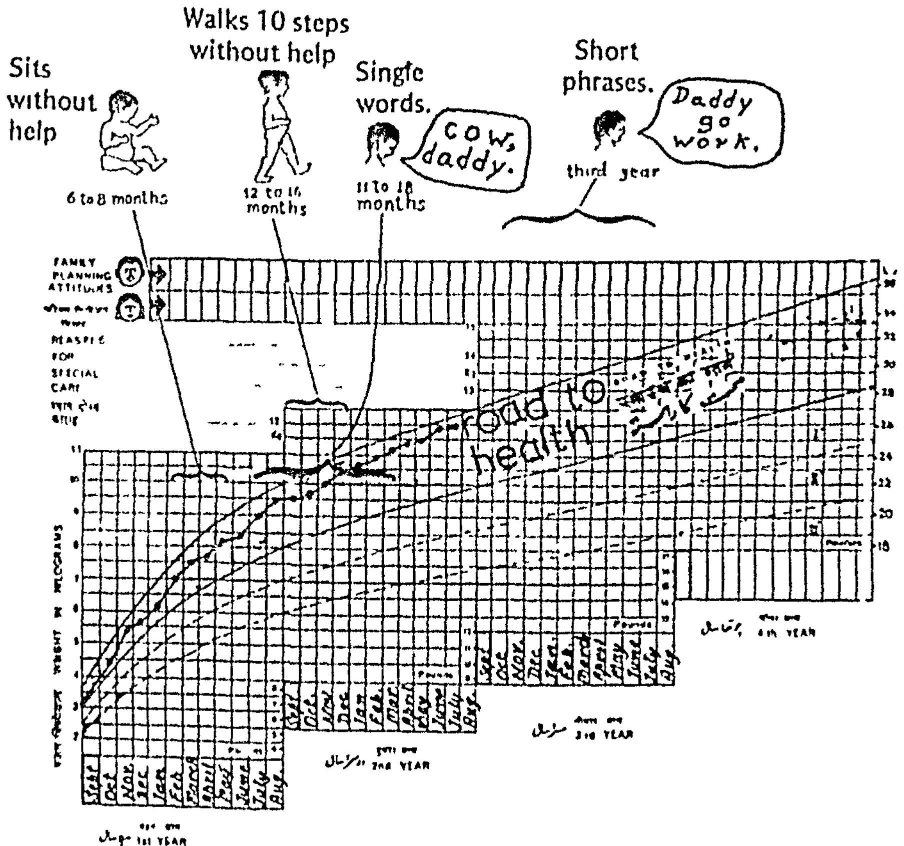
The line of dots marks the child's weight from month to month, and from year to year.

In most normal, healthy children, the line of dots falls between the 2 long curved lines That is why the space between these lines is called the Road to Health

If the line of dots rises steadily, month after month, in the same direction as the long curved lines, this is also a sign that the child is healthy

A healthy child who gets enough nourishing food usually begins to sit, walk, and speak at about the times shown here

Typical chart of
THE HEALTHY,
WELL-NOURISHED
CHILD



In the healthy, well-nourished child, the weight rises steadily. The dots usually lie inside the lines that mark the Road to Health

A malnourished, sickly child may have a chart like the one below Notice that the line of dots (his weight) is not following the 2 curved lines on the chart

Typical chart of
THE UNDERWEIGHT
OR MALNOURISHED
CHILD

A child with a chart like the one above is seriously underweight This may be because he is not given enough nourishing food Or because he has some chronic disease like tuberculosis or malaria Or both He should be given the most nourishing food available, and if possible, he should be taken to a health worker frequently until his chart shows he is gaining weight and returning toward the Road to Health.

A typical UNDER FIVE CARD SHOWING A CHILD'S PROGRESS

This baby was healthy and gained weight well for the first 6 months of life, because his mother breast fed him

breast fed

At 6 months, the mother became pregnant again and stopped breast feeding him The baby was fed little more than corn and rice He stopped gaining weight

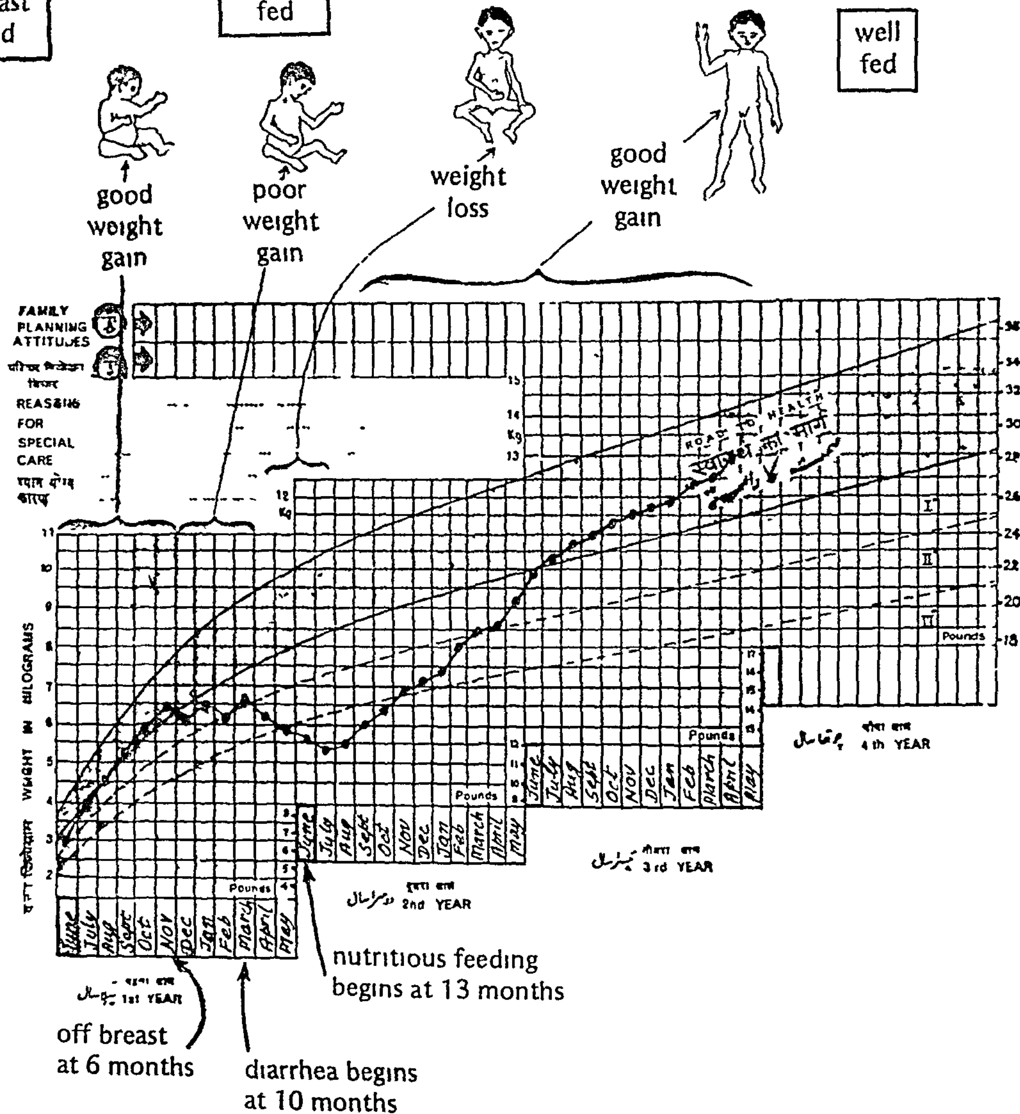
poorly fed

At 10 months he developed chronic diarrhea and began losing weight He became very thin and sick

diarrhea

When the child was 13 months old, his mother learned how important it is to give the child nourishing food. He began gaining weight fast By age 2 he was back on the Road to Health

well fed



Under Five Cards are important They help mothers know when their children need more nutritious food and special attention They help health workers better understand the needs of the child and his family They also let the mother know when she is doing a good job

REVIEW OF CHILDREN'S HEALTH PROBLEMS DISCUSSED IN OTHER CHAPTERS

Many of the sicknesses discussed in other chapters of this book are found in children. Here some of the more frequent problems are reviewed in brief. For more information on each problem, see the pages indicated.

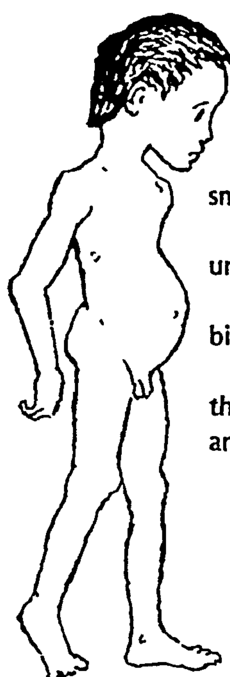
For special care and problems of newborn babies, see p. 316 to p. 318

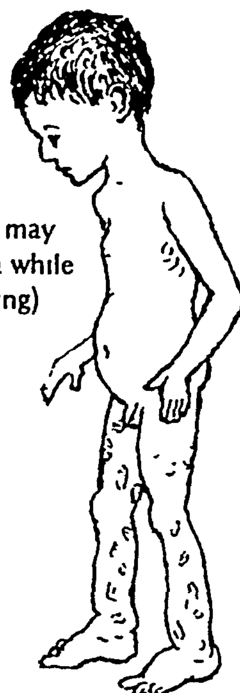
Remember: In children, sicknesses often become serious very quickly An illness that takes days or weeks to severely harm or kill an adult may kill a small child in hours So, it is important to **notice early signs of sickness and attend to them right away.**

Malnourished Children

Many children are malnourished because they do not get enough to eat. For a fuller discussion of the foods children need, read Chapter 11, especially page 141 For babies, see pages 141 and 142

THESE TWO CHILDREN ARE MALNOURISHED





Malnutrition may cause many different problems in children, including

In mild cases:

- slower growth
- swollen belly
- thin body
- loss of appetite
- loss of energy
- paleness (anemia)
- desire to eat dirt (anemia)
- sores in corners of mouth
- frequent colds and other infections
- night blindness

In more serious cases:

- little or no weight gain
- swelling of feet (sometimes face also)
- dark spots, 'bruises', or open peeling sores
- thinness or loss of hair
- lack of desire to laugh or play
- sores inside mouth
- failure to develop normal intelligence
- 'dry eyes' (xerosis)
- blindness (p 271)

A comparison of 'wet' and 'dry' malnutrition, their causes, and prevention is given on page 132-33.

Signs of malnutrition are often first seen after an acute illness like diarrhea or measles A child who is sick, or who is getting well after a sickness, has an even greater need for nutritious food than a child who is well

Prevent and treat malnutrition by giving your children enough body-building and protective foods like milk, beans, lentils, fruits, vegetables. eggs, meat, and fish,

Diarrhea and Dysentery

(For more complete information see p 183 to 191)

The greatest danger to children with diarrhea—especially if they are also vomiting—is dehydration, or losing too much liquid from the body Give Rehydration Drink (p 182) If the child is breast feeding, continue giving breast milk, but give Rehydration Drink also In summer, small children may become dehydrated due to sweating too much Give them lots of boiled and cooled water to drink



The second big danger to children with diarrhea is malnutrition Give the child nutritious food as soon as he will eat

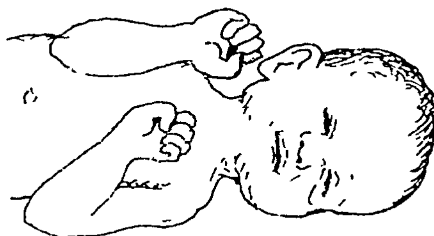
Fever (see p 87)

In small children, high fever (over 39°) can easily cause fits



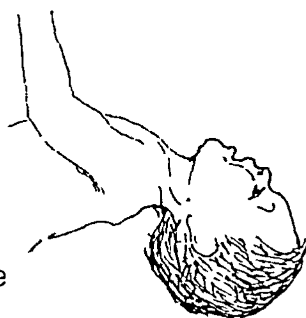
or damage the brain To lower fever rapidly, take the clothes off the child, soak him with cool water, and fan him Also give him acetaminophen or aspirin in the right dosage (see p 414) and give lots of liquids

Fits (Convulsions) (see p 216)



Common causes of fits or convulsions in children are high fever, dehydration, epilepsy, and meningitis If fever is high, lower it rapidly (see p 88) Check for signs of dehydration (p 181) and meningitis (p 225) Fits that come suddenly without fever or other signs are probably epilepsy (p 216), especially if the child seems well between them Fits or spasms in which first the jaw and then the whole body becomes stiff may be tetanus (p 222)

Meningitis (see p 225)

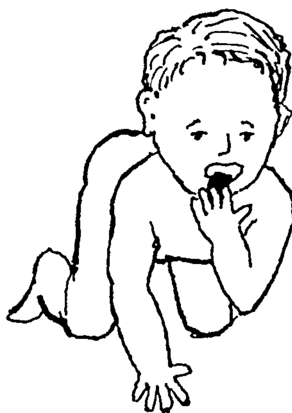


This dangerous disease may come as a complication of measles or another serious illness Children of mothers who have tuberculosis may get tubercular meningitis A very sick child who lies with his head tilted way back, whose neck is too stiff to bend forward, and whose body makes strange movements (fits) may have meningitis

Anemia (see p 146)

Common signs in children:

- pale, especially inside eyelids, gums, and fingernails
- weak, tires easily
- likes to eat dirt



Common causes:

- diet poor in iron (p. 146)
- chronic gut infections (p 198)
- hookworm (p 195)
- malaria (p 227)

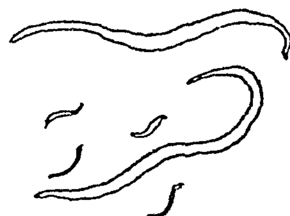
Prevention and Treatment:

♦ Give iron-rich foods like dark green vegetables, beans, lentils, groundnuts (Peanuts), meat and eggs Also give them jaggery which is rich in iron instead of the more commonly used white sugar

- Treat the cause of anemia and do not go barefoot if hookworm is common Also do not wash hands with clay or mud They have worm eggs in them
- If you suspect hookworm, a health worker may be able to look at the child's stools under a microscope If hookworm eggs are found, treat for hookworm (p 412)
- If necessary give iron salts by mouth (ferrous sulfate, p 424)

Worms and Other Parasites of the Gut (see p 193)

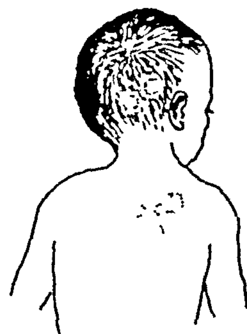
If one child in the family has worms, all the family should be treated. To prevent worm infections, children should



- Observe the Guidelines of Cleanliness (p 167)
- Use latrines
- Never go barefoot
- Never eat raw or partly raw meat
- Drink only boiled or pure water

Skin Problems (see Chapter 15)

Those most common in children include:

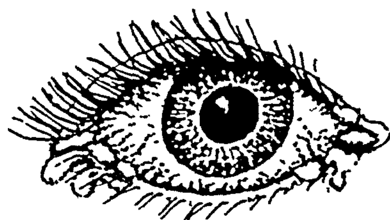


- scabies (p 241)
- infected sores and impetigo (p 242 and 243)
- ringworm and other fungus infections (p 246)

To prevent skin problems, observe the Guidelines of Cleanliness (p 167)

- Bathe and delouse children often
- Control bedbugs, lice, and scabies
- Do not let children with scabies, lice, ringworm, or infected sores play or sleep together with other children. Treat them early.

Sore Eye (Conjunctivitis) (see p 263)



Put an antibiotic eye drops. (p 413) **inside** the eyelids many times a day Do not let a child with sore eye play or sleep with others If he does not get well in a few days, see a health worker

Colds and the 'Flu' (see p 200)



The common cold, with runny nose, mild fever, cough, often sore throat, and sometimes diarrhea is a frequent but not a serious problem in children

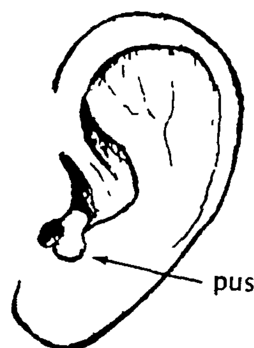
Treat with aspirin or acetaminophen (p 414) and lots of liquids Let children who want to stay in bed do so Good food and lots of fruit help children avoid colds and get well quickly

Penicillin, tetracycline, and other antibiotics do no good for the common cold or 'flu Injections are not needed for colds

If a child with a cold becomes very ill, with high fever and shallow, rapid breathing, he may be getting **pneumonia** (see p 208), and antibiotics should be given Also watch for an ear infection (next page) or 'Streptococcal throat' (p 356)

HEALTH PROBLEMS OF CHILDREN NOT DISCUSSED IN OTHER CHAPTERS

Earache and Ear Infections:



Earache may be due to wax in the ear This wax is normal To keep ears clean, wipe them gently with a stick wrapped in cotton after bathing If there is too much wax, a health worker can remove it

Ear infections are common in small children The infection often begins after a few days with a cold or a stuffy or plugged nose The fever may rise, and the child often cries or rubs the side of his head Sometimes pus can be seen in the ear. In small children an ear infection sometimes causes diarrhea So when a child has diarrhea and fever, be sure to check his ears

Treatment:

- It is important to treat ear infections early Give an antibiotic like penicillin (p 397) or sulfadiazine (p.402) In children under 3 years of age, ampicillin (p 399) often works better. Also give aspirin or acetaminophen for pain
- Carefully clean pus out of ears with a matchstick wrapped in cotton If possible, dip the stick in rubbing alcohol before putting it inside the ear, but do not put plug of cotton, leaves or anything else in the ear
- Children with pus coming from an ear should bathe regularly but should not swim or dive for at least 2 weeks after they are well

Prevention.

- Teach children to wipe but **not** to blow their noses when they have a cold
- Do not bottle feed babies—or if you do, do not let a baby feed lying on his back, as the milk can go up his nose and lead to an ear infection
- When children's noses are plugged up, use salt drops and suck the mucus out of the nose as described on p 201

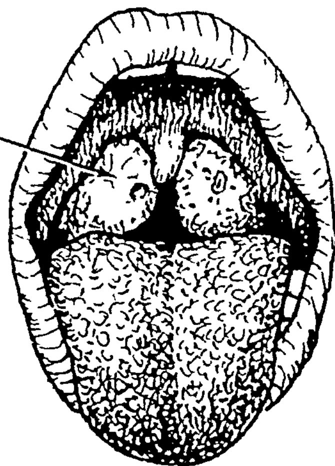
Infection in the ear canal:

To find out whether the canal or tube going into the ear is infected, gently pull the ear If this causes pain, the canal is infected Put drops of water with vinegar in the ear 3 or 4 times a day (Mix 1 spoon of vinegar with 1 spoon of boiled water.) If there is fever or pus, also use an antibiotic

If the child has severe pain behind the ear and has high fever, **seek medical help at once.** This may lead to meningitis

Sore Throat and Inflamed Tonsils:

These problems often begin with the common cold The throat may be red and hurt when the child swallows The tonsils (two lymph nodes seen as lumps on each side at the back of the throat) may become large and painful or drain pus Fever may reach 40°



Treatment·

- Gargle with very warm salt water (1 teaspoon of salt in a glass of water)
- Take aspirin or acetaminophen for pain
- If pain and fever come on suddenly or continue for more than 3 days, see the following page
- If the child has tonsilitis very often it is best to have the tonsils removed by a small operation

Sore throat and the danger of rheumatic fever:

For the sore throat that often comes with the common cold or flu, antibiotics should usually not be used and will do no good Treat with gargles and aspirin

However, one kind of sore throat—called **streptococcal throat**—should be treated with penicillin It is most common in children and young adults It usually begins suddenly with severe sore throat and fever, often without signs of a cold or cough The back of the mouth and tonsils may become very red, and the lymph nodes under the jaw may become swollen and ender

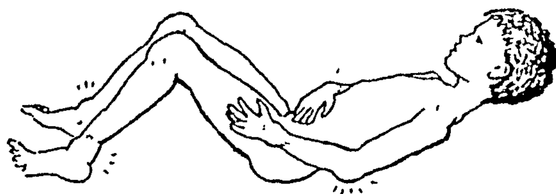
Give penicillin (p 397) for 10 days If penicillin is given early and continued for 10 days, there is less danger of getting rheumatic fever A child with strep throat should eat and sleep far apart from others, to prevent their getting it also

Rheumatic Fever:

This is a disease of children and young adults It usually begins 1 to 3 weeks after the person has had a strep throat (see above)

Principal signs (usually only 3 or 4 of these signs are present):

- fever
- joint pain, especially in the wrists and ankles, later the knees and elbows. Joints become swollen, and often hot and red



- curved red lines or lumps under the skin
- in more serious cases, weakness, shortness of breath, and perhaps chest pain

Treatment:

- If you suspect rheumatic fever, see a health worker. There is a risk that the heart may become damaged
- Take aspirin in large doses (p. 414). A 12-year-old can take up to 2 or 3 tablets of 300 mg 6 times a day. Take them together with milk or a little bicarbonate of soda, to avoid stomach pain. If the ears begin to ring, take less
- Give penicillin (see p. 397)

Prevention:

- To prevent rheumatic fever, treat 'strep throat' early with penicillin—for 10 days
- To prevent return of rheumatic fever, and added heart damage, a child who has once had rheumatic fever should take penicillin for 10 days at the first sign of a sore throat. If he already shows signs of heart damage, he should take penicillin on a regular basis or have monthly injections of benzathine penicillin (p. 399) perhaps for the rest of his life. Follow the advice of an experienced health worker or doctor

URINARY TRACT INFECTION FOLLOWING STREPTOCOCCAL THROAT

Sometimes the germs that cause sore throat, tonsilitis or skin infection can also affect the urinary tract in children. In such cases about two weeks after, the child gets high fever, and pain in the lower back (renal area). The child has headache, vomiting or even fits. The child may also have swollen feet, face and hands. The child passes less urine. The urine may be clouded or bloody. The pulse rate is high

Treatment

- Check the blood pressure
- The child needs **complete bed rest**. He should not leave his bed at all till he is completely cured
- Measure the amount of urine he passes everyday. Give the child **only the same amount** of water to drink
- Reduce the amount of protein in his food. Do not give him any milk, dal and food containing proteins. Cooked rice with a little ghee can be given
- Do not give the child any salt at all
- Give penicillin injections (see p.398).

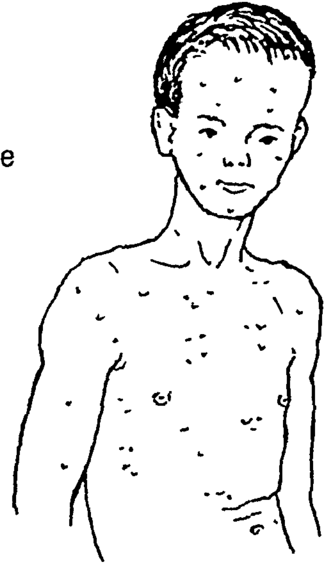
Danger signs: If any of the following signs appear, send for medical help **at once**

* Increase in pulse rate
* High blood pressure
* Swelling increases
* The child stops passing urine
* difficulty in breathing

This condition is not dangerous if the child has **complete bed rest** with a low protein and salt free diet

INFECTIOUS DISEASES OF CHILDHOOD

Chickenpox:



This mild virus infection begins 2 to 3 weeks after a child is exposed to another child who has the disease

Signs:









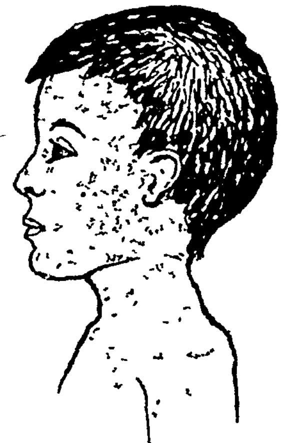
spots, blisters, and scabs

First many small, red, itchy spots appear. These turn into little pimples or blisters that pop and finally form scabs Usually they begin on the body, and later on the face, arms, and legs There may be spots, blisters, and scabs, all at the same time Fever is usually mild

Treatment:

The infection goes away in a week Bathe the child daily with soap and warm water To relieve itching, apply cool clothes soaked in water from boiled and strained dalia, neem leaves or apply calamine lotion Cut fingernails very short If the scabs get infected, put gentian violet or an antibiotic ointment on them

Measles:



This severe virus infection is especially dangerous in children who are poorly nourished or have tuberculosis

A child usually gets measles ten days after being near a person with measles It begins with signs of a cold—fever, runny nose, red sore eyes, and cough

The child becomes increasingly ill. The mouth may become very sore and he may develop diarrhea.

After 2 or 3 days a few tiny white spots like salt grains appear in the mouth A day or 2 later the rash appears—first behind the ears and on the neck, then on the face and body, and last on the arms and legs After the rash appears, the child usually begins to get better In about 5 days, the rash disappears by the peeling of the skin and leave dark marks on the skin

Treatment:

- The child should stay in bed, drink lots of liquids, and be given nutritious food. If a baby cannot breast feed, give breast milk in a spoon (see p. 323).
- For fever and discomfort, give acetaminophen (or aspirin).
- If earache develops, give an antibiotic (p 397).
- If signs of pneumonia, meningitis, or severe pain in the ear or stomach develop, get medical help.

Prevention of measles:

Children with measles should keep far away from other children Especially try to protect children who are poorly nourished or who have tuberculosis or other chronic illnesses Children from other families should not go into a house where there is measles If children in a family where there is measles have not yet had measles themselves, they should not go to school or into stores for 10 days

> **To prevent measles from killing children, make sure all children are well nourished. Isolate children with measles. Do not let other children come near them.**

German Measles:

German measles are not as severe as regular measles They last 3 or 4 days The rash is mild Often the lymph nodes on the back of the head and neck become swollen and tender

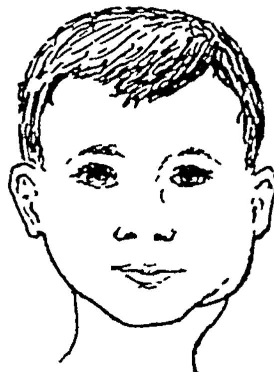
The child should stay in bed and take aspirin if necessary

Women who get German measles in the first 3 months of pregnancy may give birth to a child who is damaged or deformed For this reason, pregnant women who have not yet had German measles—or are not sure—should keep far away from children who have this kind of measles **If a woman has German measles in the first 3 months of pregnancy, she should have an abortion.**

Mumps:

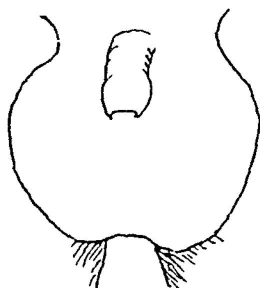
The first symptoms begin 2 or 3 weeks after being exposed to someone with mumps

Mumps begins with fever and pain on opening the mouth or eating In 2 days, a soft swelling appears below the ears at the angle of the jaw Often it comes first on one side, and later on the other.



Treatment:

The swelling goes away by itself in about 10 days, without need for medicine Aspirin can be taken for pain and fever Feed the child soft, nourishing foods and keep his mouth clean.



Complications

In adults and children over 11 years of age, after the first week there may be pain in the belly or a painful swelling of the testicles (men) or the breasts (of women) Persons with such swelling should stay quiet and put ice packs or cold wet cloths on the swollen parts to help reduce the pain and swelling

If signs of meningitis appear, get medical help (p 225)

Whooping Cough:

Whooping cough begins a week or two after being exposed to a child who has it It starts like a cold with fever, a runny nose, and cough



Two weeks later, the whoop begins The child coughs rapidly many times without taking a breath, until he coughs up a plug of sticky mucus, and the air rushes back into his lungs with a loud whoop While he is coughing, his lips and nails may turn blue for lack of air After the whoop he may vomit Between coughing spells the child seems fairly healthy

Whooping cough often lasts 3 months or more

Whooping cough is especially dangerous in babies under 1 year of age, so vaccinate children early Small babies do not develop the typical whoop so it is hard to be sure if they have whooping cough or not If a baby gets fits of coughing and swollen or puffy eyes when there are cases of whooping cough in your area, treat him for whooping cough **at once.**

Treatment

In the early stage of whooping cough, before the whoop begins, tetracycline (p 400), erythromycin (p 400), or ampicillin (p 399) may help It is especially important to treat babies under 6 months at the first sign

- In severe cases of whooping cough, phenobarbital (p 422) may help, especially if the cough does not let the child sleep or causes convulsions
- To avoid weight loss and malnutrition, the child should get nutritious food and should eat soon after he vomits

Complications

A bright red hemorrhage in the white of the eyes may be caused by the coughing No treatment is necessary (see p 270) If fits or signs of pneumonia (p 209) or meningitis (p 225) develop, get medical help

Protect your children against whooping cough.
See that they are first vaccinated at 2 months of age.



Diphtheria:

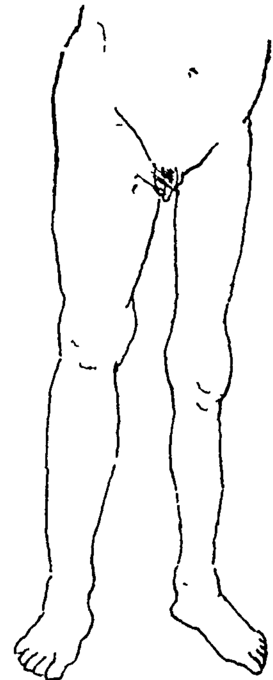
This begins like a cold with fever, headache, and sore throat A yellow-gray coating or *membrane* may form in the back of the throat, and sometimes in the nose and on the lips The child's neck may become swollen His breath smells very bad

If you suspect that a child has diphtheria:

- Get medical help quickly There is a special antitoxin for diphtheria
- Put him to bed in a room separate from other persons
- Give penicillin
- Have him gargle warm water with a little salt
- Have him breathe hot water vapors often or continually (p 205)
- If the child begins to choke and turn blue, try to remove the membrane from his throat using a cloth wrapped around your finger

Diphtheria is a dangerous disease that can easily be prevented with the DPT vaccine **Be sure your children are vaccinated.**

Infantile Paralysis (Polio, Poliomyelitis):



Polio is most common in children under 2 years of age

This virus infection begins like a cold with fever, vomiting, and sore muscles Sometimes that is all there is to it But sometimes a part of the body becomes weak or paralyzed Most often this happens to one or both legs In time, the paralyzed limb becomes thin and does not grow as fast as the other one

Treatment:

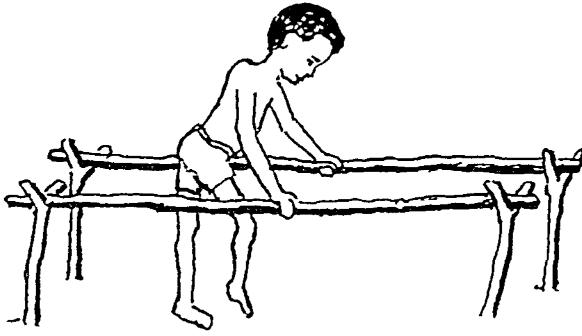
Once the disease has begun, no medicine can take away the paralysis Antibiotics do not help Calm the pain with aspirin or acetaminophen and by putting hot soaks on the painful muscles Do not massage the muscles when the child is having polio This may cause more damage

Prevention:

Keep the sick child in a separate room, away from other children The mother should wash her hands after each time she touches him The best protection against polio is the polio vaccine

See that children are vaccinated against polio, with 'polio drops' at 2, 3, AND 4 months of age.

Avoid giving children injections or vaccinations during the rainy season or during a polio epidemic



A child who has been crippled by polio should eat nutritious food and do exercises to strengthen remaining muscles During the first year some strength may return

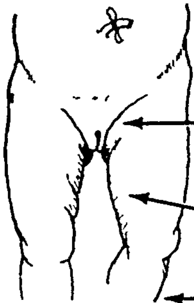
Help the child learn to walk as best he can Fix 2 poles for support, like these, and later make him some crutches

HOW TO MAKE SIMPLE CRUTCHES

PROBLEMS CHILDREN ARE BORN WITH

Dislocated Hip:

Some children are born with a dislocated hip—the leg has slipped out of its joint in the hip bone This is more common in girls Early care can prevent lasting harm and a limp So all babies should be checked for possible hip dislocation at about 10 days after birth



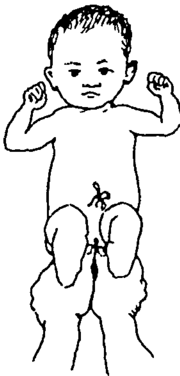
1 Compare the 2 legs If one hip is dislocated, that side may show

The upper leg partly covers this part of the body on the dislocated side

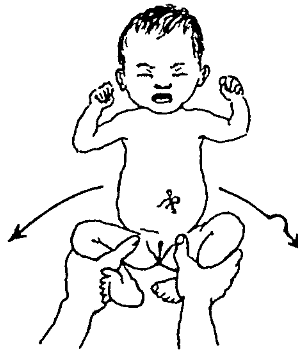
There are fewer folds here

The leg seems shorter or turns out at a strange angle

2 Hold both legs with the knees doubled, like this,



and open them wide like this

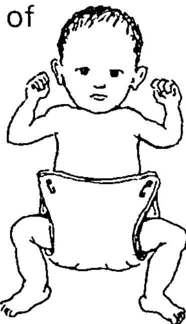


If one leg stops early or makes a jump or click when you open it wide, the hip is dislocated

Treatment

Keep the baby with his knees high and wide apart

by using many thickness of diapers like this



or by pinning his legs like this (when the baby sleeps)



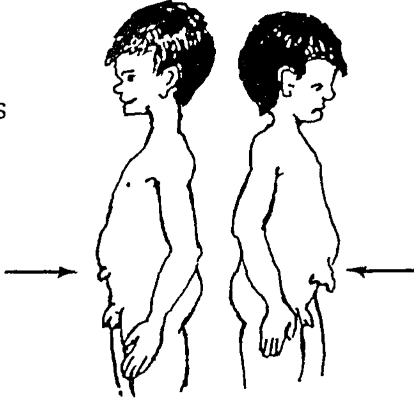
or by doing this



In places where women carry their babies with their legs spread on their hips, often no treatment is necessary

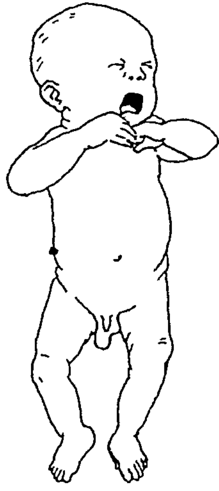
Umbilical Hernia (Belly Button that Sticks Out):

A belly button that sticks out like this is no problem No medicine or treatment is needed Tying a tight cloth or 'belly band' around the belly will not help



Even a big umbilical hernia like this one is not dangerous and will often go away by itself If it is still there after age 5, an operation may be needed Get medical advice

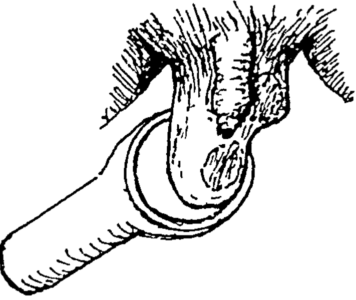
A 'Swollen Testicle' (Hydrocele or Hernia):



If a baby's *scrotum,* or bag that holds his testicles, is swollen on one side, this is usually because it is filled with liquid (a hydrocele) or because a loop of gut has slipped into it (a hernia)

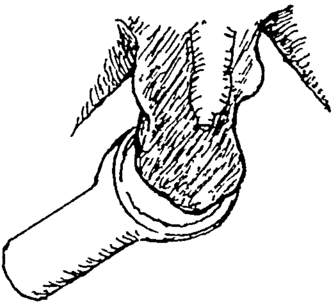
To find out which is the cause, shine a light through the swelling

If light shines through easily, it is probably a **hydrocele**



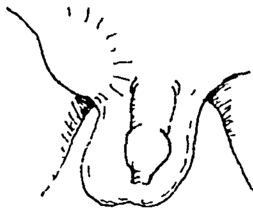
A hydrocele usually goes away in time, without treatment If it lasts more than a year, get medical advice

If light does not shine through, and if the swelling gets bigger when the baby coughs or cries, it is a **hernia**



A hernia needs surgery (see p 215).

Sometimes the **hernia** causes a swelling above and to one side of the baby's scrotum, not in it



You can tell this from a swollen lymph node (p 101) because the hernia swells when the baby cries or is held upright and disappears when he lies quietly

MENTALLY SLOW, DEAF, OR DEFORMED CHILDREN

Sometimes parents will have a child who is born deaf, mentally *retarded* (slow), or with *birth defects* (something wrong with part of his body) Often no reason can be found No one should be blamed Often it just seems to happen by chance

However, certain things greatly increase the chance of birth defects **A baby is less likely to have something wrong if parents take certain precautions.**

1 **Lack of nutritious food** during pregnancy can cause mental slowness or birth defects in babies

To have healthy babies, pregnant women must eat nutritious food (see p 128)

2 **Lack of iodine** in a pregnant woman's diet can cause *cretinism* in her baby

The baby's face is puffy, and he looks dull His tongue hangs out, and his forehead may be hairy He is weak, feeds poorly, cries little, and sleeps a lot He is retarded and may be deaf He will begin to walk and talk later than normal babies

To help prevent cretinism, pregnant women should use iodized salt instead of ordinary salt (see p. 152).

If you suspect your baby may have cretinism, take him to a health worker or doctor at once The sooner he gets special medicine (thyroid) the more normal he will be



CRETINISM

3 **Smoking or heavy drinking** of alcoholic drinks during pregnancy causes babies to be born small or to have other problems (see p 178) Do not drink heavily or smoke—especially during pregnancy

4 **After age 35,** there is more chance that a mother will have a child with defects *Mongolism* or Down's disease, which looks somewhat like cretinism, is especially common in babies of older mothers

It is wise to plan your family so as to have no more children after age 35 (see Chapter 20).

5 **Many different medicines** can harm the baby developing inside a pregnant mother

Use as little medicine as possible during pregnancy— and only those known to be safe.

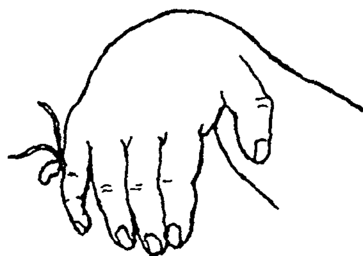
6 **When parents are blood relatives** (cousins, for instance), there is a higher chance that their children will be defective or retarded **Cross-eyes, extra fingers or toes, club feet, hare lip, and cleft palate** are common defects

To lower the chance of these and other problems, do not marry a close relative And if you have more than one child with a birth defect, consider not having more children (see Family Planning, Chapter 20)

If your child is born with a birth defect, take him to a health center. Often something can be done

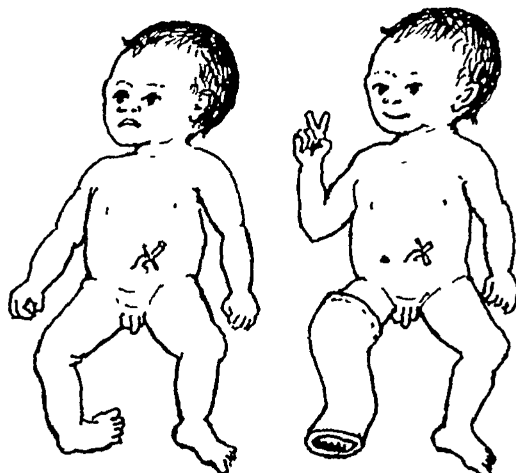
- For cross-eyes, see p 269

- If an extra finger or toe is very small with no bone in it, tie a string around it very tightly→ It will dry up and fall off If it is larger or has bone in it, either leave it or have it taken off by surgery



- If a newborn baby's feet are turned inward or have the wrong shape (clubbed), try to bend them to normal shape If you can do this easily, repeat this several times each day The feet (or foot) should slowly grow to be normal

  If you cannot bend the baby's feet to normal, take him **at once** to a health center where his feet can be put in casts For the best results, it is important to **do this within 2 days after birth.**



CLUB FOOT WITH CAST

- If a baby's lip or the top of his mouth *(palate)* are divided *(cleft),* he may have trouble breast feeding and need to be fed with a spoon or dropper With surgery, his lip and palate can be made to look almost normal. The best age for surgery is usually at 4 to 6 months for the lip, and at 18 months for the palate.

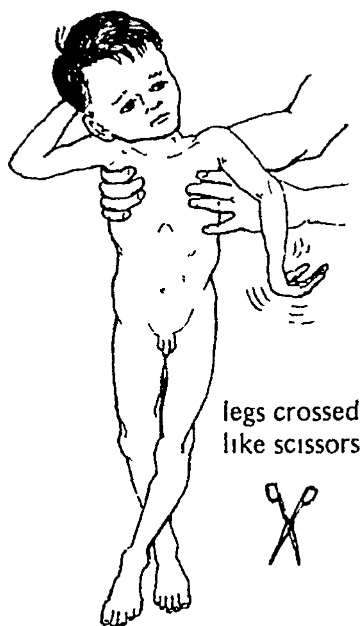


HARE LIP AND CLEFT PALATE

7. **Difficulties during birth** sometimes result in **brain damage** that causes a child to be **spastic** or have **fits.** The chance of damage is greater if at birth the baby is slow to breathe, or if the midwife injected the mother with an oxytocic (p 312) before the baby was born

Be careful in your choice of a midwife—and do not let your midwife use an oxytocic before the baby is born.

The Spastic Child (Cerebral Palsy):



A child who is spastic has tight, stiff muscles that he controls poorly His face, neck, or body may twist, and his movements may be jerky Often the tight muscles on the inside of his legs cause them to cross like scissors

At birth the child may seem normal or perhaps floppy The stiffness comes as he gets older He may or may not be mentally slow

There are no medicines that cure the brain damage that makes a child spastic

But the child need special care To help prevent tightening of the muscles in the legs or in a foot, treat as for Dislocated Hip (p 363) and as for Club Foot (p.366), if necessary

Help the child to roll over sit and stand – then learn to walk as on p 362 Encourage him to use both his mind and body as much as he can Help him learn (see next page) Even if he has trouble with speaking he may have a good mind and be able to learn many skills if given a chance **Help him to help himself.**

To help prevent mental retardation or birth defects in her child, a woman should do these things:

1 Do not marry a cousin or other close relative

2 Eat as well as possible during pregnancy as much meat, eggs, fruit, and vegetables as you can

3 Use iodized salt instead of regular salt, especially during pregnancy

4 Do not smoke or drink heavily during pregnancy (see p 178)

5 While pregnant, avoid medicines whenever possible—use only those known to be safe

6 While pregnant, keep away from persons with German measles

7 Be careful in the selection of a midwife—and do not let the midwife use an oxytocic before the child is born (see p 312)

8 Seek medical help, if the baby starts becoming yellow(Jaundice)

9 Do not have more children if you have more than one child with the same birth defect, (see Family Planning, p 329)

10 Consider not having more children after age 35

Retardation in the First Months of Life:

Some children who are healthy when they are born do not grow well They become mentally slow because they do not eat enough nutritious food During the first few months of life the brain develops more rapidly than at any other time For this reason the nutrition of the newborn is of great importance Breast milk is the best food for a baby (see The Best Diet for Babies, p 141)

HELPING CHILDREN LEARN:

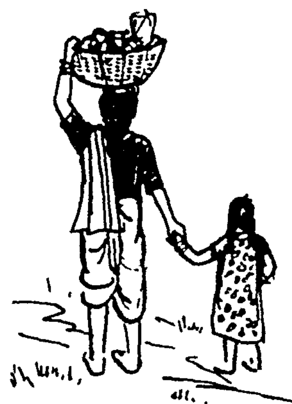
As a child grows, he learns partly from what he is taught Knowledge and skills he learns in school may help him to understand and do more later School can be important

But a child does much of his learning at home or in the forest or fields He learns by watching, listening, and trying for himself what he sees others do He learns not so much from what people tell him, as from how he sees them act **Some of the most important things a child can learn—such as kindness, responsibility, and sharing—can only be taught by setting a good example.**

A child learns through adventure He needs to learn how to do things for himself, even though he makes mistakes. When he is very young, protect a child from danger But as he grows, help him learn to care for himself Give him some responsibility. Respect his judgment, even if it differs from your own

When a child is young, he thinks mostly of filling only his own needs. Later, he discovers the deeper pleasure of helping and doing things for others Welcome the help of children and let them know how much it means.

Children who are not afraid ask many questions If parents, teachers, and others take the time to answer their questions clearly and honestly—and to say they do not know when they do not—a child will keep asking questions, and as he grows may look for ways to make his surroundings or his village a better place to live



CHAPTER

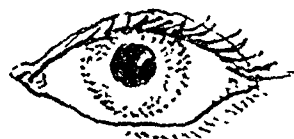
22 HEALTH AND SICKNESSES OF OLDER PEOPLE

This chapter is about the prevention and treatment of problems seen mostly in older persons

SUMMARY OF HEALTH PROBLEMS DISCUSSED IN OTHER CHAPTERS

Difficulties with Vision: (see p 268)

After the age of 40, many people have problems seeing close objects clearly They are becoming *farsighted.* Often glasses will help.



Everyone over age 40 should watch for signs of glaucoma, which can cause blindness if left untreated Any person with signs of glaucoma (see p. 267) should seek medical help.

Cataracts (see p. 270) and 'flies before the eyes' (tiny moving spots—p. 272) are also common problems of old age. Cataracts can be corrected easily by a small operation

Weakness, Tiredness, and Eating Habits:

Old people understandably have less energy and strength than when they were younger, but they will become even weaker if they do not eat well Although older people often do not eat very much, they should eat some body-building and protective foods every day (see p. 128 to 131).

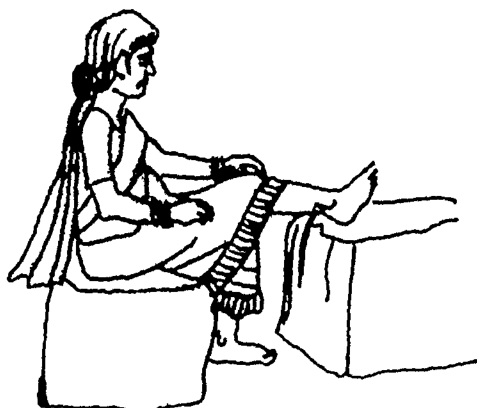
Swelling of the Feet: (see p. 214)



This can be caused by many diseases, but in older people it is often caused by poor circulation (see p. 254) or heart trouble (see p 371). Whatever the cause, **keeping the feet up is the best treatment.** Walking helps too—but do not spend much time standing or sitting with the feet down. Keep the feet up whenever possible.

Chronic Sores of the Legs or Feet: (see p 28)

These may result from poor circulation, often because of varicose veins (p 213) Sometimes diabetes is part of the cause (p 149) For other possibilities, see page28



Sores that result from poor circulation heal very slowly

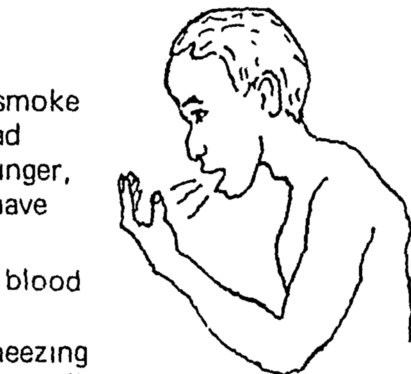
Keep the sore as clean as possible Wash it with boiled water and mild soap and change the bandage often If signs of infection develop treat as directed on p 101).

When sitting or sleeping, keep the foot up.

Difficulty Urinating: (see p 279)

Older men who have difficulty urinating or whose urine drips or dribbles are probably suffering from an enlarged prostate gland Turn to page 279

Chronic Cough: (see p 205)

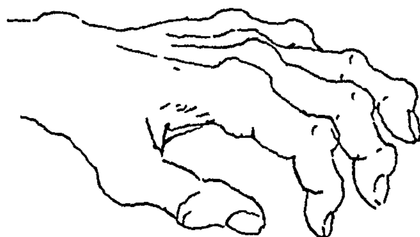


Older people who cough a lot should not smoke and should seek medical advice If they had symptoms of tuberculosis when they were younger, or have ever coughed up blood, they may have tuberculosis

If the person smokes too much and coughs out blood he could have cancer of the lung

If an older person develops a cough with wheezing or trouble breathing (asthma) or if his feet also swell, he may have heart trouble (see the next page).

Rheumatoid Arthritis (painful joints): (see p. 210).



Many older people have arthritis

To help arthritis

- Rest the joints that hurt
- Apply hot compresses (see p 236)
- Take a medicine for pain, aspirin is best For severe arthritis, take 2 to 3 aspirin tablets up to 6 times a day with bicarbonate of soda, milk, or a lot of water (If the ears begin to ring, take less)
- It is important to do exercises that help maintain as much movement as possible in the painful joints

OTHER IMPORTANT ILLNESSES OF OLD AGE

Heart Trouble:

Heart disease is more frequent in older people, especially in those who are fat, who smoke, or who have high blood pressure

Signs of heart problems:

- Anxiety and difficulty in breathing after exercise, asthma-like attacks that get worse when the person lies down (cardiac asthma)
- A rapid, weak, or irregular pulse
- Swelling of the feet—worse in the afternoons
- Sudden, painful attacks in the chest, left shoulder, or arm that occur when exercising and go away after resting for a few minutes (angina pectoris)
- A sharp pain like a great weight crushing the chest, does not go away with rest (heart attack)

Treatment:

- Different heart diseases may require different specific medicines, which must be used with great care If you think a person has heart trouble, seek medical help. It is important that he has the right medicine when he needs it
- People with heart trouble should not work so hard that they get chest pain or have troubled breathing However, regular exercise helps prevent a heart attack
- Persons with heart problems should not eat greasy food and should lose weight if they are overweight
- If an older person begins having attacks of difficult breathing or swelling of the feet, he should not use salt or eat food that contains salt For the rest of his life he should eat little or no salt
- If a person has angina pectoris or a heart attack, he should rest very quietly in a cool place until the pain goes away

If the chest pain is very strong and does not go away with rest, or if the person shows signs of **shock** (see p 89), the heart has probably been severely damaged The person should stay in bed for at least a week or as long as he is in pain or shock Then he can begin to sit up or move slowly, but should stay very quiet for a month or more Consider getting medical help



Prevention: See the next page

Words to Younger Persons Who Want to Stay Healthy When They Are Older

Many of the health problems of middle and old age, including high blood pressure, hardening of the arteries, heart disease, and stroke, result from the way a person has lived and what he ate, drank, and smoked when younger Your chances for living and staying healthy longer are greater if you

1 **Eat well**—enough nutritious foods, but not too much rich or greasy food Avoid getting overweight or fat

2 **Do not drink a lot of alcoholic drinks.**

3 **Do not smoke.**

4 **Keep physically and mentally active.**

5 **Try to get enough rest and sleep.**

6 **Learn how to relax** and deal positively with things that worry or upset you.

High blood pressure (p 147) and hardening of the arteries (arteriosclerosis), which are the main causes of heart disease and stroke, can usually be prevented—or reduced—by doing the things recommended above The lowering of high blood pressure is important in the prevention of heart disease and stroke Persons who have high blood pressure should have it checked from time to time and take measures to lower it For those who are not successful in lowering their blood pressure by eating less (if they are overweight), giving up smoking, getting more exercise, and learning to relax, medicines to lower blood pressure (antihypertensives) may help





WHICH OF THESE TWO MEN IS LIKELY TO LIVE LONGER AND BE HEALTHY IN HIS OLD AGE? WHICH IS MORE LIKELY TO DIE OF A HEART ATTACK OR A STROKE? WHY? HOW MANY REASONS CAN YOU COUNT?

Stroke, (Apoplexy, Cerebro-Vascular Accident, CVA)

In older people *stroke* or *cerebro-vascular accident* (CVA) commonly results from a blood clot or from bleeding inside the brain The word *stroke* is used because this condition often strikes without warning The person may suddenly fall down, unconscious His face is often reddish, his breathing hoarse, his pulse strong and slow He may remain in a coma (unconscious) for hours or days



If he lives, he may have trouble speaking, seeing, or thinking, or one side of his face and body may be paralyzed In minor strokes, some of these same problems may result without loss of consciousness The difficulties caused by stroke sometimes get better with time.

Treatment:

Put the person in bed with his head a little higher than his feet If he is unconscious, roll his head back and to one side so his saliva (or vomit) runs out of his mouth, rather than into his lungs While he is unconscious, give no food, drink, or medicines by mouth (see the Unconscious Person, p 90) If possible, seek medical help

After the stroke, if the person remains partly paralyzed, help him to walk with a cane and to use his good hand to care for himself He should avoid heavy exercise and anger.

Prevention: See page 372

Note: If a younger or middle-aged person suddenly develops paralysis on one side of his face, with no other signs of stroke, this is probably a temporary paralysis of the face nerve (Bell's Palsy). It will usually go away by itself in a few weeks or months The cause is usually not known. No treatment is needed but hot soaks may help If one eye does not close all the way, bandage it shut at night to prevent damage from dryness.

Deafness with Ringing of the Ears and Dizziness

Deafness that comes on gradually without pain or other symptoms is usually incurable, though a hearing aid may help. Sometimes deafness results from ear infections (see p.355).



If an older person loses hearing in one or both ears—occasionally with severe dizziness—and hears a loud 'ringing' or buzzing, he probably has Ménière's disease. He should take an antihistamine, such as dimenhydrinate (*Dramamine,* p 420) and go to bed until the symptoms go away. He should have no salt in his food If he does not get better soon, or if the problem returns, he should immediately seek medical advice.

Loss of Sleep (Insomnia)

It is normal for older people to need less sleep than younger people. During long winter nights they may spend hours without being able to sleep.

Certain medicines may help bring sleep, but it is better not to use them if they are not absolutely necessary

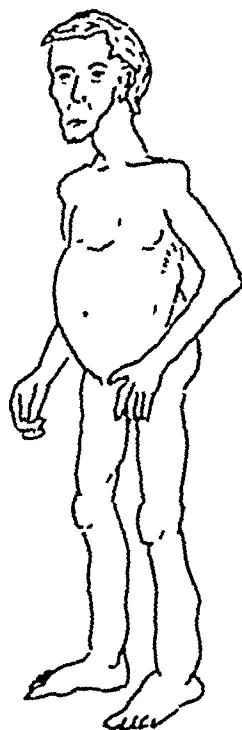
Here are some suggestions for sleeping:

- Get plenty of exercise during the day.
- Do not drink coffee or black tea, especially in the afternoon or evening.
- Drink a glass of warm milk or milk with honey before going to bed
- Take a warm bath before going to bed
- If you still cannot sleep, try taking an antihistamine like promethazine (*Phenergan*, p 419) or dimenhydrinate (*Dramamine*, p 420) half an hour before going to bed These are less habit-forming than stronger drugs

DISEASES FOUND MORE OFTEN IN PEOPLE OVER 40 YEARS OLD

Cirrhosis of the Liver:

Cirrhosis usually occurs in men over 40 who for years have been eating poorly and drinking a lot of liquor (alcohol)



Signs:

- Cirrhosis starts like hepatitis, with weakness, loss of appetite, upset stomach, and pain on the person's right side near his liver
- As the illness gets worse, the person gets thinner and thinner He may vomit blood In serious cases the feet swell, and the stomach swells with liquid until it looks like a drum The eyes and skin may turn yellowish (jaundice)

Treatment:

When cirrhosis is severe, it is hard to cure There are no medicines that help much Most people with severe cirrhosis die from it If you want to stay alive, **at the first sign of cirrhosis** do the following:

- Never drink alcohol again! Alcohol poisons the liver.
- Eat as well as possible. foods high in protein and vitamins
- If a person with cirrhosis has swelling, he should not use any salt in his food

Prevention of this disease is easy. **AVOID DRINKING ALCOHOL.**

Gallbladder Problems:



The gallbladder is a small sac attached to the liver. It collects a bitter, green juice called bile, which helps digest fatty foods. Gallbladder disease occurs most commonly in persons who are 'fat, female and 40'

Signs:

- Sharp pain in the stomach at the edge of the right rib cage This pain sometimes reaches up to the right side of the upper back
- The pain may come an hour or more after eating rich or fatty foods Severe pain may cause vomiting
- Sometimes there is fever
- Occasionally the eyes may become yellow (jaundice)

Treatment:

- Take belladonna or another antispasmodic baralgan to calm the pain (p 415) Strong painkillers are often needed (Aspirin will probably not help.)
- If the person has a fever, she should take tetracycline (p 400) or ampicillin (p 399)
- Do not eat greasy food Overweight (fat) people should eat small meals and lose weight
- In severe or chronic cases, seek medical help Sometimes surgery is needed

Prevention:

Women who are overweight should lose weight (see p 148) Avoid rich, sweet, and greasy food—and do not eat too much

Biliousness:

In many countries and in different languages, bad-tempered persons are said to be 'bilious'. Some people believe that fits of anger come when a person has too much bile

In truth, most bad-tempered persons have nothing wrong with their gallbladders or bile. However, persons who do suffer from gallbladder disease often live in fear of a return of this severe pain and perhaps for this reason are sometimes short-tempered or continually worried about their health.

ACCEPTING DEATH

Old people are often more ready to accept their own approaching death than are those who love them. Persons who have lived fully are not usually afraid to die. Death is, after all, the natural end of life.

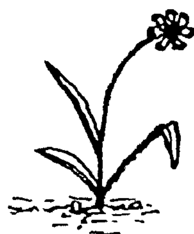
We often make the mistake of trying to keep a dying person alive as long as possible, no matter what the cost. Sometimes this adds to the suffering and strain for both the person and his family. There are many occasions when the kindest thing to do is not to hunt for 'better medicine' or a 'better doctor' but to be close to and supporting of the person who is dying Let him know that you are glad for all the time, the joy and sorrow you have shared, and that you, too, are able to accept his death. In the last hours, love and acceptance will do far more good than medicines.

Old or chronically ill persons would often prefer to be at home, in familiar surroundings with those they love, than to be in a hospital. At times this may mean that the person will die earlier. But this is not necessarily bad. We must be sensitive to the person's feelings and needs, and to our own. Sometimes a person who is dying suffers more knowing that the cost of keeping him barely alive causes his family to go into debt or children to hunger. He may ask simply to be allowed to die—and there are times when this may be the wise decision.

Yet some people fear death. Even if they are suffering, the known world may be hard to leave behind. Every culture has a system of beliefs about death and ideas about forms of life after death. These ideas, beliefs, and traditions may offer some comfort in facing death.

Death may come upon a person suddenly and unexpectedly or may be long-awaited. How to help someone we love accept and prepare for his approaching death is not an easy matter. Often the most we can do is offer support, kindness, and understanding.

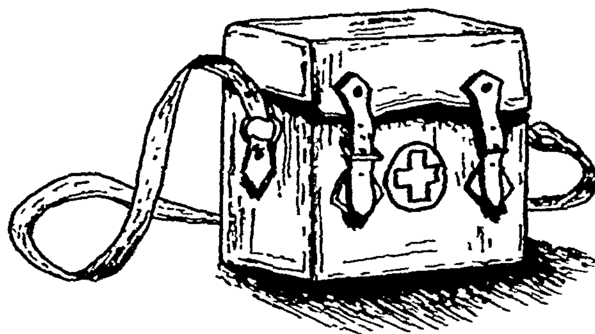
The death of a younger person or child is never easy. Both kindness and honesty are important A child—or anyone—who is dying often knows it, partly by what his own body tells him and partly by the fear or despair he sees in those who love him. Whether young or old, if a person who is dying asks for the truth, tell him, but tell him gently, and leave some room for hope. Weep if you must, but let him know that even as you love him, and because you love him, you have the strength to let him leave you. This will give him the strength and courage to accept leaving you. To let him know these things you need not say them. You need to feel and show them.



We must all die. Perhaps the most important job of the healer is to help people accept death when it can or should no longer be avoided, and to help ease the suffering of those ho still live:

CHAPTER

23 THE MEDICINE KIT



Every family and every village should have certain medical supplies ready in case of emergency:

- The family should have a HOME MEDICINE KIT (see p. 380) with the necessary medicines for first aid, simple infections, and the most common health problems.
- The village should have a more complete medical kit (see VILLAGE MEDICINE KIT, p. 382) with supplies necessary to care for day-to-day problems as well as to meet a serious illness or an emergency. A responsible person should be in charge of it—a health worker, teacher, parent, storekeeper, or anyone who can be trusted by the community. If possible all members of the village should take part in setting up and paying for the medical kit. Those who can afford more should contribute more. But everyone should understand that **the medicine kit is for the benefit of all**—those who can pay and those who cannot.

On the following pages you will find suggestions for what the medicine kits might contain. You will want to change these lists to best meet the needs and resources in your area. Although the list includes mostly modern medicines, important home remedies known to be safe and to work well can also be included.

How much of each medicine should you have?

The amounts of medicines recommended for the medicine kits are the smallest amounts that should be kept on hand. In some cases there will be just enough to **begin** treatment. It may be necessary to take the sick person to a hospital or go for more medicine at once.

The amount of medicine you keep in your kit will depend on how many people it is intended to serve and how far you have to go to get more when some are used up. It will also depend on cost and how much the family or village can afford. Some of the medicines for your kit will be expensive, but it is wise to have enough of the important medicines on hand to meet emergencies.

Note: Supplies for birth kits—the things midwives and pregnant mothers need to have ready for a birth—are listed on pages 300 to 301

HOW TO CARE FOR YOUR MEDICINE KIT

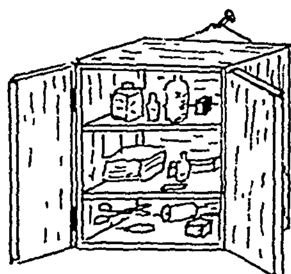
1 *CAUTION.* **Keep all medicines out of the reach of children.** Any medicine taken in large doses can be poisonous

2 **Be sure that all medicine is well labeled and that directions for use are kept with each medicine.** Keep a copy of this book with the medicine kit

3 **Keep all medicines and medical supplies together in a clean, dry, cool place** free from cockroaches and rats Protect instruments, gauze, and cotton by wrapping them in sealed plastic bags

4 **Keep an emergency supply of important medicines on hand at all times.** Each time one is used, replace it as soon as possible

5 **Notice the DATE OF EXPIRATION on each medicine.** If the date has passed or the medicine looks spoiled, destroy it and get new medicine
Some medicines, especially tetracyclines, may be dangerous if they have passed their expiration date



Keep medicines out of reach of children.



BUYING SUPPLIES FOR THE MEDICINE KIT

Most of the medicines recommended in this book can be bought in the pharmacies of larger towns If several families or the village get together to buy what they need at once, often the pharmacist may sell them supplies at lower cost Or if medicines and supplies can be bought from a wholesaler, prices will be cheaper still

If the pharmacy does not supply a brand of medicine you want, buy another brand, but be sure that it is the same medicine and check the dosage Read the fine print on the bottle or box to make sure it is the right medicine you want

When buying medicines, compare prices Some brands are much more expensive than others even though the medicine is the same More expensive medicines are usually no better When possible, **buy generic medicines rather than brand-name products,** as the generic ones are often much cheaper Sometimes you can save money by buying larger quantities. For example, a 600,000-unit vial of penicillin often costs only a little more than a 300,000-unit vial—so buy the large vial and use it for two doses



THE HOME MEDICINE KIT

Each family should have the following things in their medicine kit. These supplies and medicines should be enough to treat many common problems in rural areas

Also include useful home remedies in your medicine kit.

SUPPLIES

Use	Supply	Price (write in)	Amount recommended	See page
FOR WOUNDS AND SKIN PROBLEMS				
	sterile gauze pads in individual sealed envelopes	______	20	110, 262 309
	1-, 2-, and 3-inch gauze bandage rolls	______	2 each	100
	clean cotton	______	1 small package	85, 96 300
	adhesive tape (adhesive plaster), 1-inch wide roll	______	2 rolls	98, 262
	disinfectant soap (like Lifebuoy or Cinthol,	______	1 bar or small bottle	410
	70% alcohol rubbing alcohol	______	250 ml	95, 300, 355
	hydrogen peroxide, in a dark bottle	______	1 small bottle	96, 225 254 255
	petroleum jelly *(Vaseline)*	______	1 bottle	104, 111 194, 242
	white vinegar	______	500 ml	242, 286, 338, 355
	sulfur	______	100 gm	242, 247 246,
	tincture of iodine and tincture benzoine	______	1 small bottle each (1 oz or 30 ml)	
	scissors (clean, not rusty)	______	1 pair	98, 300, 308
	tweezers or forceps with pointed ends	______	1 pair	97, 213

Use	Supply	Price (write in)	Amount recommended	See page
FOR MEASURING TEMPERATURE:				
	thermometers for mouth for rectum	________	1 each	36, 37
FOR KEEPING SUPPLIES CLEAN.				
	plastic bags	________	several	237, 378

MEDICINES

Use	Medicine (generic name)	Local brand (write in)	Price (write in)	Amount recommended	See page
FOR BACTERIAL INFECTIONS.					
	1 Penicillin, 250 mg tablets (2,00 000 U)	________	________	40	397
	2 A sulfonamide, 500 mg tablets	________	________	100	402
	3. tetracycline 250 mg capsules	________	________	24	399
FOR WORMS					
	4 Mebendazole tablets or syrup	________	________	40 tablets of 500 mg or 2 bottles	411
FOR FEVER AND PAIN					
	5 Aspirin, 300 mg. (5 grain) tablets	________	________	50	414
FOR DEHYDRATION:					
	6 Sodium bicarbonate (also salt and sugar)	________	________	½ kg	182
	or prepackaged mix for rehydration drink	________	________	10 envelopes	416
FOR ANEMIA·					
	7 Iron (ferrous sulfate), 200 mg pills (best if pills also contain folic acid)	________	________	100	424

Do not buy capsules They are very expensive, and not more effective than tablets

Use	Medicine (generic name)	Local brand (write in)	Price (write in)	Amount recommended	See page
FOR SCABIES AND LICE					
	8 Lindane (gamma benzene hexa-chloride)	______	______	1 bottle	411
FOR ITCHING AND VOMITING					
	9 Promethazine, 25 mg tablets	______	______	12	419
FOR MILD SKIN INFECTIONS					
	10 Gentian violet (0 5% solution) *small bottle, or an* antibiotic ointment	______	______	1 bottle 1 tube	409
FOR EYE INFECTIONS					
	11 Antibiotic eye ointment (tetracycline)	______	______	1 tube	413
	12 20 percent sulfacetamide eye drops	______	______	1 bottle	413
FOR EAR INFECTIONS.					
	13 Boroglycerine ear drops	______	______	1 bottle	414
	14 Ear drops with chloramphenicol	______	______	1 bottle	414
FOR STUFFY NOSE·					
	15 Decongestant nasal drops	______	______	1 bottle	418

THE VILLAGE MEDICINE KIT

This should have all the medicines and supplies mentioned in the Home Medicine Kit, but in larger amounts, depending on the size of your village and distance from a supply center The Village Kit should also include the things listed here, many of them are for treatment of more dangerous illnesses You will have to change or add to, the list, depending on the diseases in your area

ADDITIONAL SUPPLIES

Use	Supply	Price	Amount	Page
FOR INJECTING	syringes 1ml	______	2	77
	syringes 5ml	______	2	
	syringes 10ml	______	1	
	5 ml needles #22, 3 cm long	______	3-6	
	#25, 1½ cm long	______	2-4	

Use	Supply	Price	Amount	Page
FOR TROUBLE URINATING	catheter (rubber or plastic #16 French)	____	2	284,
FOR SPRAINS AND SWOLLEN VEINS	elastic bandages, 2 and 3 inches wide	____	3-6	115,213, 255
FOR SUCKING OUT MUCUS	suction bulb	____	1-2	97, 301, 308
FOR LOOKING IN EARS, ETC	small torch	____	1	42, 301, 355

ADDITIONAL MEDICINES

Use	Medicine	Local Brand	Price	Amount	Page
FOR SEVERE INFECTIONS	1 Penicillin, injectable,	____	____	20-40	398
	2 Tetracycline, capsules or tablets 250 mg	____	____	40-80	400
FOR AMEBA AND GIARDIA INFECTIONS	3 Metronidazole 200 mg tablets	____	____	40-80	407
FOR FITS, TETANUS, AND SEVERE WHOOPING COUGH	4 Phenobarbital 30 mg tablets	____	____	40-80	
	and 200 mg injections	____	____	15-30	422
	5 Paraldehyde 2 ml and 5 ml ampules			10-20	423
FOR SEVERE ALLERGIC REACTIONS AND SEVERE ASTHMA	6. Adrenaline injections ampules with 1 mg	____	____	5-10	419
FOR ASTHMA	7 Ephedrine, 15 mg tablets	____	____	20-100	418
FOR SEVERE BLEEDING AFTER CHILDBIRTH	8 Methyl ergotamine maleate injections of 0 2 mg/ml	____	____	6-12	423

OTHER MEDICINES NEEDED IN MANY BUT NOT ALL AREAS

Use	Medicine	Local Brand	Price	Amount	Page
WHERE DRY EYES (XEROSIS) IS A PROBLEM	Vitamin A 50 000 I V	____	____	10-100	424

Use	Medicine	Local Brand	Price	Amount	Page
WHERE TETANUS IS A PROBLEM					
	Tetanus antitoxin, 50,000 units	______	____	2-4 bottles	421
WHERE TYPHOID IS A PROBLEM					
	Chloramphenicol, 250 mg capsules	______	____	50-200	401
WHERE SNAKEBITE IS A PROBLEM					
	Polyvalent antivenin	______	____	2-6	421
WHERE MALARIA IS A PROBLEM					
	Chloroquine tablets with 150 mg of base	______	____	50-200	405
	Primaquine tablets with 26 3mg base	______	____	100-200	405
WHERE ELEPHANTIASIS IS A PROBLEM					
	Hetrazan 50 mg tablets			30-50	413
WHERE HOOKWORM IS A PROBLEM					
	Thiabendazole, 500 mg tablets (or another hookworm medicine)	______	____	25-100	411
TO PREVENT OR TREAT BLEEDING IN UNDERWEIGHT NEWBORNS					
	Vitamin K, injections of 1 mg	______	____	3-6	425

MEDICINES FOR CHRONIC DISEASES

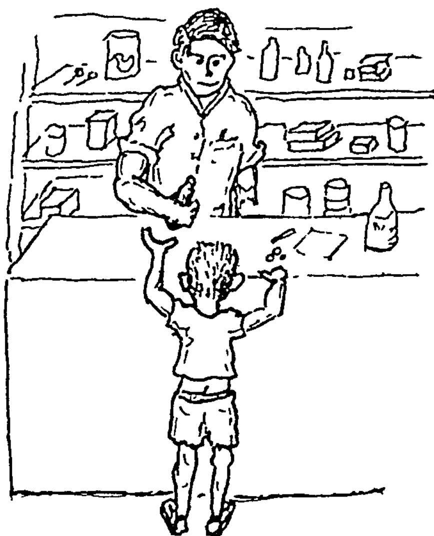
It may or may not be wise to have medicines for chronic diseases such as **tuberculosis,** and **leprosy,** in the Village Medicine Kit Often, to be sure a person has one of these diseases, special tests must be made in a health center, where the necessary medicine can usually be obtained Whether these and other medicines are included in the village medical supplies will depend on the local situation and the medical ability of those responsible

VACCINES

Vaccines have not been included in the Village Medicine Kit because they are usually provided by the Health Department However, a great effort should be made to see that all children are vaccinated as soon as they are old enough for the different vaccines (see p 175) Therefore, if refrigeration is available, vaccines should be part of the village medical supplies—especially the DPT, polio, Tetanus toxoid vaccines

WORDS TO THE VILLAGE STOREKEEPER (OR PHARMACIST)

Dear friend,



If you sell medicines in your store, people probably ask you about which medicines to buy and when or how to use them. You are in a position to have an important effect on people's knowledge and health.

This book can help you to give correct advice and to see that your customers buy only those medicines they really need.

As you know, people too often spend the little money they have for medicines that do not help them. But **you** can help them understand their health needs more clearly and spend their money more wisely. For example:

- If people come asking for cough syrups, for a diarrhea-thickener like kaolin, for vitamin B_{12} or liver extract to treat simple anemia, for penicillin to treat a sprain or ache, or for tetracycline when they have a cold, explain to them that these medicines are not needed and may do more harm than good. Discuss with them what to do instead.

- If someone wants to buy a vitamin tonic, encourage him to buy vegetables, eggs, or fruit, instead. Help him understand that these have more vitamins and nutritional value for the money.

- If people ask for an injection when medicine by mouth would work as well and be safer—which is usually the case—tell them so.

- If someone wants to buy 'cold tablets' or some other form of 'expensive aspirin' for a cold, encourage him to save money by buying plain aspirin tablets and taking them with lots of liquids.

You may find it easier to tell people these things if you look up the information in this book, and read it together with them.

Above all, sell only useful medicines. Stock your store with the medicines and supplies listed for the Home and Village Medicine Kits, as well as other medicines and supplies that are important for common illnesses in your area. Try to stock low-cost generic products or the least expensive brands. And never sell people medicines that are expired, damaged, or useless.

Your store can become a place where people learn about caring for their own health. If you can help people use medicines intelligently, making sure that anyone who purchases a medicine is well informed as to its correct use and dosage, as well as the risks and precautions, you will provide an outstanding service to your community.

Good luck!

Sincerely,

David Werner

THE GREEN PAGES

THE USES, DOSAGE, AND PRECAUTIONS FOR THE MEDICINES REFERRED TO IN THIS BOOK



The medicines in this section are grouped according to their uses For example, all the medicines used to treat infections caused by worms are listed under the heading FOR WORMS

If you want information on a medicine, look for the name of that medicine in the LIST OF MEDICINES beginning on page 389 Or look for the medicine in the INDEX OF MEDICINES beginning on page 393 When you find the name you are looking for, turn to the page number shown

Medicines are listed according to their *generic* (scientific) names rather than their *brand names* (names given by the companies that make them) This is because generic names are similar everywhere, but brand names differ from place to place Also, **medicines are often cheaper when you buy generic rather than brand-name products.**

In some cases, well-known brand names are given after the generic name In this book brand names are written in *italics* and begin with a capital letter For example, *Phenergan* is a brand name for an antihistamine called **promethazine** (promethazine is the generic name)

With the information on each medicine, blank spaces ________________ have been left for you to **write in** the name and price of the most common or least expensive product in your area For example, if the cheapest or only available form of tetracycline in your area is *Terramycin,* you would write in the blank spaces as follows

Tetracycline (tetracycline HCl, oxytetracycline, etc.)

Name ____Terramycin____ price Rs 55.00 for 100 capsules

If, however, you find you can buy generic **tetracycline** more cheaply than *Terramycin*, write instead

Name ____Tetracycline HCL____ price Rs 48.50 for 100 capsules

> **Note:** Not all the medicines listed in the Green Pages are needed in your Home or Village Medicine kit. Because different medicines are available in different pharmacies information has sometimes been given for a number of medicines that do the same job However, it is wise to
>
> **KEEP AND USE ONLY A SMALL NUMBER OF MEDICINES.**

Always check the **expiry date** (last date before which the medicine should be used) when you buy any medicine Throw away or destroy any medicine which has not yet been used after the expiry date is over

Dosage Information:

HOW FRACTIONS ARE SOMETIMES WRITTEN

1/2 tablet = half a tablet =

1 1/2 tablets = one and a half tablets =

1/4 tablet = one quarter or one fourth of a tablet =

1/8 tablet = one eighth of a tablet (dividing it into 8 equal pieces and taking 1 piece) =

DECIDING DOSAGE BY HOW MUCH A PERSON WEIGHS

In these pages most instructions for dosage are given according to the age of a person—so that children get smaller doses than adults. However, it is more exact to determine dosage according to a person's weight Information for doing this is sometimes included briefly in parentheses ( ), for use of health workers who have scales If you read .

(100 mg./kg./day),

this means 100 mg. per kilogram of body weight per day In other words, during a 24 hour period you give 100 mg of the medicine for each kilogram the person weighs in divided doses

For example, suppose you want to give aspirin to a boy with rheumatic fever who weighs 36 kilograms The recommended dose of aspirin for rheumatic fever is 100 mg /kg /day So multiply

100 mg. x 36 = 3600 mg

The boy should get 3600 mg of aspirin a day. One aspirin tablet contains 300 mg of aspirin 3600 mg comes to 12 tablets So give the boy 2 tablets 6 times a day (or 2 tablets every 4 hours)

This is one way to figure the dosages for different medicines For more information on measuring and deciding on dosages, see Chapter 8

Note to educators and planners of health care programs and to local distributors of this book

If this book is to be used in training programs for village health workers or is distributed by a local health care program, **information about local names and prices of medicines should accompany the book.**

Local distributors are encouraged to duplicate a sheet with this information, so that it can be copied into the book by the user Wherever possible, include local sources for **generic or low-cost medicines and supplies.** (See "Buying Supplies for the Medicine Kit," page 379)

List Of Medicines In The Green Pages

[illegible]

ANTIBIOTICS

The Penicillins
Very Important Antibiotics

See page

Penicillin by Mouth [illegible]

Injectable Penicillin [illegible] ... 3[illegible]

[illegible] ... 3[illegible]

[illegible] ... 3[illegible]

Ampicillin: A Wide-Range (Broad-Spectrum) Penicillin ... 3[illegible]

Penicillin with Streptomycin ... [illegible]

Erythromycin:
An Alternative to Penicillin ... [illegible]

Tetracyclines
Wide-range Antibiotics

[illegible] ... [illegible]

Chloramphenicol
An Antibiotic for Typhoid ... [illegible]

The Sulfas or Sulfonamides
Inexpensive Medicine for Common Infections

[illegible] ... [illegible]

For Urinary Tract Infection

[illegible]

[illegible] (Septran or Bactrim) ... [illegible]

[illegible] (Pyridium) ... [illegible]

[illegible] (Mandelamine) ... [illegible]

Medicines
For Tuberculosis

Streptomycin ... [illegible]

Isoniazid (INH) ... [illegible]

[illegible] ... [illegible]

Thiacetazone ... [illegible]

For Leprosy
Sulfones

Dapsone [illegible] ... [illegible]

OTHER MEDICINES

For Malaria

[illegible]

For Amebas and Giardia

[illegible]

For Dehydration

For Hard Stools (Constipation): Laxatives

For Mild Diarrhea

For Stuffy Nose

For Cough

COUGH-CALMERS (cough suppressants)

COUGH-HELPERS (expectorants)

For Asthma

For Allergic Reactions and Vomiting: The Antihistamines

Antitoxins

For Swallowed Poisons

For Fits (Convulsions)

For Severe Bleeding After Birth (Postpartum Hemorrhage)

For Piles (Hemorrhoids)

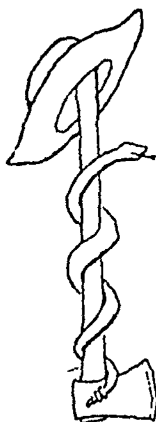
For Malnutrition and Anemia

Family Planning Methods: Birth Control

INDEX OF MEDICINES IN THE GREEN PAGES

Listed in this order A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Note: Medicines not listed in the GREEN PAGES, but mentioned in the book are listed in the main Index (yellow pages).



ONLY USE A MEDICINE WHEN YOU ARE SURE IT IS NEEDED AND WHEN YOU ARE SURE HOW TO USE IT.

INFORMATION ON MEDICINES

ANTIBIOTICS

THE PENICILLINS
VERY IMPORTANT ANTIBIOTICS

Penicillin is one of the most useful antibiotics It fights certain kinds of infections, including many that produce pus It does no good for most diarrheas, most urinary infections, backache, bruises, the common cold, chickenpox, or other virus infections (see p 26 and 27)

Penicillin is measured in milligrams (mg) or units (U) For penicillin G, 250 mg = 400,000 U

Risks and precautions for all kinds of penicillin (including ampicillin)

For most people penicillin is one of the safest medicines Too much does no harm and only wastes money *Too little does not completely stop* the infection and may make the bacteria *resistant* (more difficult to kill).

In certain persons penicillin causes **allergic reactions** Mild allergic reactions include itchy raised spots or rashes Often these come several hours or days after taking penicillin and may last *for days* Antihistamines (p 419) help calm the itching

Rarely, penicillin causes a dangerous reaction called **allergic shock** Soon after penicillin is injected, the person *suddenly gets pale, has trouble* breathing, and goes into the state of shock (see p 83) *Adrenalin* **must be injected at once**
Always do a **sensitivity test** before injecting penicillin (see p 81 - 82)

Always have *Adrenalin* ready when you do the sensitivity test and when you inject the full dose. (See p 419)

A person who has once had **any** allergic reaction to penicillin should **never** be given any kind of penicillin or ampicillin again This is because the next time the reaction would likely be far worse and might kill him

Most infections that can be treated with penicillin can be treated quite well with penicillin taken by mouth Injected forms of penicillin are more dangerous than those taken by mouth

Use injectable penicillin only for severe or dangerous infections

Before injecting penicillin or any medicine that contains it, take the precautions given on page 84

Resistance to penicillin

Sometimes penicillin does not work *against* an infection it would normally control This may be because the bacteria have become resistant, so that penicillin no longer harms them Infections that are at times resistant to penicillin include impetigo, sores on the skin with pus and *infections of the* bone (osteomyelitis)

If one of these infections does not respond to ordinary penicillin, another antibiotic may be tried Or special forms of penicillin (methacillin, nafcillin, oxacillin, cloxacillin, dicloxacillin) may work

If a case of gonorrhea is resistant to penicillin, use tetracycline as indicated on pages 280 and 401

CAUTION *Do not apply penicillin ointment or* powder locally on a skin wound This may make the person allergic to penicillin The person may also develop resistance to penicillin and will need a stronger and more expensive antibiotic to cure a simple disease

PENICILLIN BY MOUTH

Penicillin G or V

Familiar brand names
Depen Tablets, Crystapen V, Pentids

Often comes in 2 00,000 or 4,00 000 or 5,00,000 or 10,00,000 or 60 mg 130 mg or 250 mg tablets

(Penicillin V is used by the body more easily than penicillin G, but is more expensive)

Penicillin by mouth (rather than injections) should be used for mild and moderately severe infections, including

- abscessed or infected teeth
- infected wounds or many infected sores
- widespread impetigo
- erysipelas
- ear infections
- sinusitis
- sore throat with sudden, high fever (strep throat)
- some cases of bronchitis

If infection is severe it may be best to start with injections of penicillin, but often penicillin by mouth can be given instead once improvement begins

If improvement does not begin within 2 or 3 days, consider using another antibiotic and try to get medical advice

Dosage of penicillin by mouth—using tablets of 2,00 000 U

For mild infections

adults 4,00,000 U (or 250 mg) 4 times a day
Children 6-12 years old 2,00,000 U (or 12 mg) 4 times a day
children under 6 years 1,00,000 U (or 60 mg) 3 or 4 times a day

For more serious infections double the above dosage **Seek medical help** .

Important Keep taking the penicillin for at least 2 or 3 days after fever and other signs of infection are gone

To help the body make better use of the medicine, **always take penicillin on an empty stomach,** an hour before meals (This is more important for penicillin G than for penicillin V)

INJECTABLE PENICILLIN

Injectable penicillin should be used for certain severe infections, including

- meningitis
- septicemia
- tetanus
- severe pneumonia
- badly infected wounds
- gangrene
- infected bones and to prevent infection when a bone pokes through the skin
- gonorrhea
- syphilis

Injectable penicillin comes in many different preparations Before you inject any penicillin, be sure to check the **amount** and the **kind.**

Choosing the right kind of penicillin for injection

Some kinds of penicillin do their job quickly but do not last long Others work more slowly but last longer There are times when it is better to use one kind than another

Short-acting penicillin These are known by many names, including crystalline penicillin, benzylpenicillin, aqueous penicillin, soluble penicillin sodium penicillin potassium penicillin, and penicillin G injections These penicillins act quickly but only stay in the body a short time, so that they must be injected every 6 hours (4 times a day) A short acting penicillin is the best choice for very severe infections when high doses of penicillin are needed For example, for gas gangrene or when a broken bone pokes through the skin

Intermediate acting penicillin: Procaine penicillin or procaine penicillin aluminum monostearate (PAM) These work more slowly and last about a day in the body, so injections should be given once daily Procaine penicillin, or a combination of procaine and a short acting penicillin, is the best choice for most infections when injectable penicillin is needed

Long acting penicillin· Benzathine or benethamine penicillin This penicillin goes into the blood slowly and lasts up to a month Its main use is in the treatment of strep throat and prevention of rheumatic fever It is useful when a person lives far away from someone who injects or cannot be counted upon to take penicillin by mouth For mild infections a single shot may be enough Benzathine penicillin often comes combined with faster-acting penicillins

Crystalline penicillin (a short-acting penicillin)
Familiar brand name ***Benzyl Penicillin*** crystapen

Name ____________ price ______ for___

Often comes in vials of 10 lakh U (625 mg)

Dosage of crystalline penicillin or any short-acting penicillin—for severe infections

Give an injection every 4 to 6 hours

In each injection give

adults 5 00 000 U
children age 4 to 12 years 100,000 U

Children age 2 to 3 50,000 U
babies under 1 year of age 50,000 U
twice a day

two divided doses

Procaine penicillin (intermediate-acting)

Familiar brand names ***Pronapen, Diapen - F, Munopen***

Name in your area price for

Dosage of procaine penicillin—for moderately severe infections

Give 1 injection a day

With each injection give

- adults 3 00 000 to 6 00 000 U
- children age 8 to 12 3 00 000 U
- children age 3 to 7 1 50 000 U
- children under 3 75 000 U
- newborn babies DO NOT USE unless no other penicillin or ampicillin is available In emergencies, 75,000 U

For very severe infections, give twice the above dose However, it is better to use a short-acting penicillin

The dosage for procaine penicillin combined with a short-acting penicillin is the same as for procaine penicillin alone

Benzathine penicillin (long-acting)

Familiar brand names ***Benapen, Penidure - AP, Penidure - LA***

Name in your area price for

Dosage of benzathine penicillin—for mild to moderately severe infections

Give 1 injection every 4 days For mild infections, 1 injection may be enough

adults 6 00 000 to 12 00 000 U
children age 8 to 12 3 00 000 to 6 00 000 U
children age 3 to 7 1 50 000 to 3 00 000 U
children 1 to 3 years 1 50 000 U
children under 1 year DO NOT USE

In case of rheumatic fever

Treatment If children below 12 years have rheumatic fever give procaine penicillin, 3 00 000 U Once a day for 10 days For children above 12 years give 6 00 000 U Once a day for 10 days

To prevent return of infection in persons who have had rheumatic fever give

oral penicillin tablets 2 00 000 U (1 tablet) twice a day

or

benzathine penicillin 6 00 000 to 8 00 000 U Once a month

In case of gonorrhoea, give

Injection procaine penicillin 24 00 000 U only Once
inject half into each buttock

In case of syphilis, give

Injection procaine penicillin 6 00 000 U Once a day for 8 to 15 days depending on how severe the infection is Inject half the dose into each buttock

or

Injection Benzathine penicillin 24 00 000 U once only Inject half the dose in each buttock

AMPICILLIN A WIDE-RANGE (BROAD-SPECTRUM PENICILLIN)

Ampicillin

Name in your area———— price for

Ampicillin is a ***broad-spectrum*** (wide range) penicillin that kills many more kinds of bacteria than are killed by other penicillins It is safer than other broad-spectrum antibiotics and is especially useful for babies and small children

Because it is expensive, and sometimes causes diarrhea or 'thrush', ampicillin should not be used when regular penicillin is likely to do the job as well

Ampicillin works well when taken by mouth Injections should only be used for severe illnesses such as meningitis, peritonitis and appendicitis, or when the sick person vomits or cannot swallow the medicine

Ampicillin is especially useful in treating the following

- septicemia and unexplained illness in the newborn
- pneumonia or ear infections of children under 6 years
- severe diarrhoea with fever

Do not use Ampicillin for simple diarrhoea without fever.

- severe diarrhea or dysentery **with fever**
- meningitis
- peritonitis and appendicitis
- severe urinary tract infections

typhoid fever (after illness has been controlled with chloramphenicol or if it is resistant to chloramphenicol)

Persons allergic to penicillin should not take ampicillin See *Risks and Precautions* for penicillin, page397

Dosage for ampicillin

By mouth- (50 mg/kg/day)

For adults—use capsules of 250 mg
For children less than 3 years old—use syrup with 125 mg per teaspoon (5 ml)

Give 4 doses a day

In each dose give

adults 2 capsules (500 mg)
children age 8 to 12 1 capsule (250 mg)
children 3 to 7 ½ capsule or 1 teaspoon (125 mg)
children under 3 ¼ capsule or ½ teaspoon (62 mg)
newborn babies same as for children under 3 years

By injection for severe infections—(50 to 100 mg /kg /day—up to 300 mg /kg /day for meningitis)
vials of 250 mg

Give 4 doses a day, once every 6 hours

In each dose give

adults 500 mg (two 250 mg vials)
children age 8 to 12 250 mg (one 250 mg vial)
children 3 to 7 125 mg (½ of a 250 mg vial)
children under 3 62 mg (¼ of a 250 mg vial)
newborn babies 125 mg (½ of a 250 mg vial) **twice** a day only

Keep giving the ampicillin for at least 2 days after signs of infection have gone

PENICILLIN WITH STREPTOMYCIN

Streptomycin is a drug used in the treatment of tuberculosis If it is given with penicillin for diseases other than tuberculosis, the tuberculous germs present in the community get resistant to it If a person in this community develops tuberculosis, he will need far more expensive drug to cure him of tuberculosis

Do not use streptomycin with penicillin at all for any disease Common brand names Dicrystacin, Omnamycin, Procillin S

ERYTHROMYCIN: AN ALTERNATIVE TO PENICILLIN

Erythromycin

Familiar brand names *Erythrocin, Thromycin Eryseam*

Name in your area price for

Erythromycin is very expensive It may be used instead of penicillin by persons allergic to penicillin

Erythromycin is fairly safe, but care should be taken not to give more than the recommended dose Do not use for more than 2 weeks, as it may cause jaundice

Take erythromycin with meals to avoid stomach upset

Dosage of erythromycin—for persons allergic to penicillin

Give 1 dose 4 times a day

In each dose give

adults 500 mg (2 tablets or 4 teaspoons)
children 8 to 12 years 250 mg (1 tablet or 2 teaspoons)
children 3 to 7 years 150 mg (½ tablet or 1 teaspoon)
children under 3 years 75 to 150 mg (¼ to ½ tablet or ½ to 1 teaspoon)

Give vitamin B Complex tablets alongwith erythromycin

TETRACYCLINES: WIDE-RANGE ANTIBIOTICS

Tetracycline (tetracycline HCl, oxytetracycline, etc.)

(Familiar but expensive brand *Terramycin, Threocycline*)

Name in your area Price ____ for____

It is available as capsules and syrup

Tetracyclines are *broad spectrum* antibiotics, that is, they fight a wide range of different kinds of bacteria

Tetracycline should be taken by mouth, as this works as well and causes less problems than when it is injected

Tetracycline can be used for

- diarrhea or dysentery caused by bacteria or amebas
- sinusitis
- respiratory infections (bronchitis, etc)
- infections of the urinary tract
- cholera
- trachoma
- gallbladder infections

Tetracycline does no good for the common cold For many common infections it does not work as well as penicillin or sulfas It is also more expensive Its use should be limited

Always give vitamin B Complex tablets along with tetracyclines Also take plenty of water

Risks and Precautions

1. Pregnant women should not take tetracycline after the fourth month, as it can damage or stain the baby's teeth Children under 6 years old should take tetracycline only when absolutely necessary, and for short periods only, as it decreases bone growth
2. Tetracycline may cause diarrhea or upset stomach, especially if taken for a long time
3. It is dangerous to use tetracycline that is 'old' or has passed the expiration date, as this damages the kidney
4. If given to malnourished children, it can cause a further decrease in weight

Dosage for tetracycline—(20 to 40 mg /kg /day).
—capsules of 250 mg and mixture of 125 mg in 5 ml —

Give tetracycline by mouth 4 times a day

In each dose give

- adults 250 mg (1 capsule)
- children 8 to 12 years 125 mg (½ capsule
- children 4 to 7 years 80 mg (1/3 capsule
- children 1 to 3 years 60 mg (¼ capsule
- babies under 1 year 25 mg (1/10 capsule
- newborn babies (when other antibiotics are not available) 8 mg (1/30 capsule

For the body to make the best use of tetracycline, milk antacids, preparations containing iron should not be taken within 1 hour before or after taking the medicine

For most infections, tetracycline should be continued for 1 or 2 days after the signs of infection are gone Some forms of diarrhea will clear up after only a few doses (For choice of medicines for diarrhea see pages 187 189)

In case a person with gonorrhoea or syphilis is allergic to penicillin give tetracycline capsules as follows

for gonorrhoea 2 capsules 4 times a day for 2 days
for syphilis 2 capsules 4 times a day for 2 to 3 weeks depending on how severe the disease is

Tetracycline ointment should not be used for skin wounds or infection This can cause allergic reactions

Tetracycline eye ointment can be used for trachoma

CHLORAMPHENICOL: AN ANTIBIOTIC FOR TYPHOID

Chloramphenicol *(Chloromycetin)*

Familiar brand name *Chloromycetin, Enteromycetin*

Name in your area Price ____ for____

This broad-spectrum antibiotic fights a wide range of different bacteria It is cheap, but there is some danger in using it For this reason its use must be very limited

Chloramphenicol should be used only for **typhoid** and for very serious diarrhea or other infections that are not cured by sulfas, penicillin, tetracycline, or ampicillin

Except for typhoid, ampicillin usually works as well as or better than chloramphenicol, and is much safer Unfortunately, ampicillin is very expensive, so there are times when chloramphenicol must be used instead

Always give vitamin B complex by mouth along with Chloramphenicol

WARNING: Chloramphenicol harms the blood of some persons It is even more dangerous for newborn babies, especially premature babies **To newborn babies with serious infections, give ampicillin rather than chloramphenicol. Do not give chloramphenicol to babies under 1 month of age.**

Take care not to give more than the *recommended dose* of chloramphenicol **For babies, the dose is very small** (see below)

Avoid long or repeated use

In treating typhoid, change from chloramphenicol to ampicillin as soon as the illness is

under control (In regions where typhoid is known to be resistant to chloramphenicol, the entire treatment should be with ampicillin)

Chloramphenicol taken by mouth often does more good than when it is injected, and is less dangerous Except in rare cases when the person cannot swallow **do not inject chloramphenicol**

Dosage for chloramphenicol—(adults 50 to 100 mg/ kg/day Children under 1 year 25mg/kg/day) - capsules of 250 mg , or a mixture of 125 mg in 5 ml —

Give by mouth 4 times a day

In each dose give

- adults 500 to 1000 mg (2 to 4 capsules) For typhoid, peritonitis and other dangerous infections the higher dose should be given (3 capsules 4 times a day is 12 capsules a day,)
- children 8 to 12 years 250 mg (1 capsule or 2 teaspoons of mixture)
- children 3 to 7 years 125 mg (½ capsule or 1 teaspoon)
- babies 1 month to 2 years give 25 mg (1/5 teaspoon of the mixture or 1/10 part of a capsule) for *each* kg of body weight (This way, a 5 kg baby would get 125mg , which is 1 teaspoon of mixture, or ½ capsule in one day

This would have to be divided into 4 doses, and in a dose the baby would get ⅛ capsule or ¼ teaspoon of the mixture

THE SULFAS (OR SULFONAMIDES): INEXPENSIVE MEDICINE FOR COMMON INFECTIONS

Sulfadiazine, sulfisoxazole, sulfadimidine, or 'triple sulfa'

Familiar brand name *Madribon, Gantrisin*

Name in your area Price for

The sulfas or sulfonamides fight many kinds of bacteria, but they are weaker than many antibiotics and more likely to cause allergic reactions (itching) and other problems Because they are cheap and can be taken by mouth, they are still useful

The most important use of sulfas is for urinary infections They may also be used for some ear infections and for impetigo and other skin infections with pus

Not all the sulfas are used the same way or have the same dosage Check the correct use and dosage of each sulfonamide before you use it Sulfathiazole is similar to the sulfas named above, and is very cheap, but is not recommended because it is more likely to cause many of the side effects

The sulfas do not work as well for diarrhea as they used to, because many of the organisms that cause diarrhea have become resistant to them

WARNING:

It is important to **drink lots of water** when taking sulfa, to prevent harm to the kidneys

If the sulfa causes a rash, itching, joint pain, fever, lower back pain or blood in the urine, **stop taking it and drink lots of water.**

Never give sulfa to a person who is dehydrated.

Note. To do any good, these sulfas must be taken in the right dose, which is large Be sure to take enough—but not too much!

Dosage for sulfadiazine, sulfisoxazole, sulfadimidine, or triple sulfa (200 mg /kg /day) —tablets of 500 mg , or a mixture with 500 mg in 5 ml —

Give 4 doses a day—**with lots of water!**

In each dose give

- adults 3 to 4 gm (6 to 8 tablets) for the first dose, then 1 gm (2 tablets) for the other doses
- children 8 to 12 years 2 gm (4 tablets or teaspoons of the mixture) for the first dose, then 1 gm (2 tablets or teaspoons) for the other doses
- children 4 to 8 years 750 mg (1½ tablets or teaspoons) in each dose
- children 2 to 4 years 500 mg (1 tablet or 1 teaspoon) in each dose
- babies 1 year and under **Do not give sulfa** If you have no choice, give 250 mg (½ tablet or teaspoon) 4 times a day

FOR URINARY TRACT INFECTION

Sulfisoxazole **see p.** 279

Sulfamethizole *(Urolucosil)*

Name in your area price for

comes in tablets of 500 mg

Dosage of sulfamethizole for urinary tract infections

Give 4 doses a day for 10 days In each dose give

Adults 500 mg (1 tablet)
children 8 to 12 years 250 mg (½ tablet)
children 3 to 7 years 125 mg (¼ tablet)

Sulfaphenazole *(Orisul)*

Name in your area price for

Often comes in tablets of 500mg

Dosage of sulfaphenazole

adults 1000mg (2 tablets twice in a day for the first two days then 500mg (1 tablet) twice a day for the next 3 days

For children below 14 give two doses a day In each dose give

children age 5 to 14 years 750 mg(1½tablets)
children age 2 to 4 years 500mg (1 tablet)
children below 2 years 250 mg(½ tablet)

Trimethaprim with sulfamethoxazole
(Septran, Bactrim)

Name in your area price for

Often 1 tablet contains 80 mg of trimethaprim and 400 mg of sulfamethoxazole Dose can be calculated according to either trimethaprim of sulfamethoxazole

Dosage for urinary tract infections

Give 2 doses in 1 day for 10 days In each dose give

adults 2 tablets
children 8 to 12 years 1 tablet
children 3 to 7 years ½ tablet
children under 3 years ¼ tablet

Do not give to pregnant women

Phenazopyridine hydrochloride
(Pyridium)

Name in your area price for

Often comes in tablets of 100 mg

Dosage of phenazopyridine hydrochloride for severe infections (Give before meals) Give 3 doses a day In each dose give

adults 200mg (2 tablets)
children 9 to 12 years 100mg (1 tablet)
children 6 to 9 years 100mg (1 tablet)
twice a day

For children under 6 years use another medicine like trimethaprim with sulfamethoxazole

This drug does not treat the disease but relieves the pain The urine of the person taking this drug turns red in colour

MEDICINES FOR TUBERCULOSIS

In treating tuberculosis, it is very important always to use 2 or 3 anti-tuberculosis medicines at the same time If only 1 medicine is used, the TB bacteria often become resistant to it and make the disease harder to treat

To keep it from coming back, **tuberculosis must be treated for a long time,** usually at least for 18 months

The medicine for tuberculosis is not expensive You can get them free from the Primary Health Centre If the patient stops treatment with these free drugs the bacteria become resistant to them Then the new medicines are very expensive

To treat tuberculosis it is best to start with 3 medicines - **streptomycin, isoniazid** and 1 other anti-TB medicine Two examples are given below The least expensive is **thiacetazone,** but it causes side effects Para Aminosalicylic acid (PAS) is better but is little more expensive It is often a better choice

Streptomycin should be given for 3 months only Isoniazid and 1 other anti-tuberculosis medicine should be continued for at least 18 months without stopping To keep tuberculosis from coming back again the ***full, long-tem treatment is extremely important***

Streptomycin

Name in your area——— price ——— for———

Streptomycin is an important medicine for treating tuberculosis **It should always be used in combination with other medicines** Do not give streptomycin for diseases other then tuberculosis

because frequent use of streptomycin for other illnesses helps make tuberculosis germs resistant to it, and therefore harder to treat

Risks and Precautions:

Great care must be taken not to give more than the correct dose. Too much streptomycin for too long may cause deafness If ringing of the ears or deafness begins, stop taking the medicine and see a health worker at once

Dosage for streptomycin (30 to 50 mg /kg /day) —vials of liquid, or powder for mixing with water to give 1 gm of streptomycin in 2 ml —

For treatment of tuberculosis

very severe cases, give 1 injection daily for 3 months

With each injection give

adults 1 gm (or 2 ml)
children 8 to 12 years 750 mg (1½ ml)
children 3 to 7 years 500 mg (1 ml)
children under 3 years 250 mg (½ ml)
newborn babies give 20 mg for each kg of body weight, thus a 3 kg baby gets 60 mg (1/8 ml)

Always give streptomycin together with other anti-tuberculosis medicines

Streptomycin in the treatment of gonorrhea

Adults with gonorrhea who are allergic to penicillin or who do not get well using penicillin or tetracyclin (see **Resistance,** p.397) can be given a single dose of 4 gm (8 ml) of streptomycin Inject half the medicine into each buttock Do not use except when the infection is resistant to other antibiotics

Isoniazid (INH)

Name in your area ______ price ________ for______

This is the most active anti TB medicine When ever possible, it should be given with at least 1 other anti TB medicine

Risks and Precautions

Rarely, isoniazid causes anemia, nerve pains in the hands and feet, muscle twitching, or even fits These side effects can usually be prevented by giving B complex tablets - 1 tablet 3 times a day

To prevent side effects, give B-complex tablets along with INH

Dosage for Isoniazid—(10 to 20 mg /kg./day)

Give isoniazid once a day for at least 18 months

In each dose give.

adults 400 mg (4 tablets)
children 50 mg. (½ tablet) for each 5 kg the child weighs

For children with severe TB, or tubercular meningitis, the above dose should be doubled until improvement takes place

Aminosalicylic acid (PAS)

Name in your area ______ price ________ for______

Risks and Precautions:

PAS may cause vomiting, diarrhea, and stomach upset Acid indigestion can often be avoided by taking it with meals or with milk Persons with stomach ulcers should not take PAS

Dosage for PAS—(250 mg /kg /day) —500 mg tablets—

Give PAS 3 times a day, with meals, for at least 18 months

In each dose give

adults 4 gm (8 tablets)
children 8 to 12 years, 3 gm (6 tablets)
children 3 to 7 years 2 gm (4 tablets)
children under 3 years 1 gm. (2 tablets)

Thiacetazone

Name in your area ______ price ________ for______

Side effects May cause rashes, vomiting, dizziness, or loss of appetite

Dosage for thiacetazone—(3 to 5 mg /kg /day) —tablets with 50 mg thiacetazone, with or without isoniazid—

Give once a day for at least 18 months

In each dose give

adults 3 tablets (150 mg)
children 8 to 12 years 2 tablets (100 mg)
children 3 to 7 years 1 tablet (50 mg)
children under 3 years ½ tablet (25 mg)

FOR LEPROSY SULFONES

Dapsone (diaminodiphenylsulfone, DDS) —for leprosy

Name in your area ______ price ______ for______

Often comes in tablets of 10 mg 25 mg and 50 mg

Treatment of leprosy must continue for at least 4 years and sometimes for life To prevent the bacteria that cause leprosy from becoming resistant to DDS, it is important to keep taking the medicine regularly Be sure you get more before your supply runs out.

Side effects: Occasionally, the patient may develop a serious problem called 'lepra reaction' There may be fever, swollen and tender nerves, and lumpy inflamed spots It may also cause joint pains, swelling of the hands and feet, or severe eye damage leading to blindness

In case of 'lepra reaction', it is usually best to keep taking the DDS but to also take aspirin and chloroquin Take corticosteroids, only if there is shooting pain in the nerves This should be done with the advice of an experienced health worker or doctor because the corticosteroid can also cause serious problems and the dose may need to be raised or lowered

WARNING: DDS is a dangerous drug Keep it where children cannot reach it

Dosage for DDS

(1½mg /kg /day upto 100 mg per day)

In the old way of treating it was thought better to start with small doses of the drug which could then be increased slowly over a period of months But this made the bacteria resistant to the drug

For mild leprosy: mild leprosy usually means only one patch on the body, which does not show any signs of spreading The edge of the patch is usually clear

adults 50 to 100 mg daily
children 10 to 14 years 50 mg daily
children 5 to 9 years 25 mg daily
children 1 to 4 years 10 mg daily

For severe leprosy: severe leprosy means when there are many patches all over the body when the patches have no clear margins when the patches keep growing and overlap and when the nerves are affected

Start with half the above dose for mild leprosy, for 2 weeks and then give the same dose as for mild leprosy

OTHER MEDICINES

MEDICINES FOR MALARIA

Medicines for malaria can be used in three different ways

1. **Treatment** of the person who is ill with malaria Medicine is given daily for just a few days
2. **Suppression** to keep any malaria parasites that may be in the blood from doing harm Suppression is used in areas where marlaria is very common, especially to protect children who are weak or sick for other reasons Medicines are given weekly
3. **Semi-suppression (half- suppression)** this partly protects a person against malaria but lets his body build up defenses against it It is used where malaria is very common Medicine is given every 2 to 4 weeks

There are several medicines that fight malaria Unfortunately in many parts of our country malaria parasites have become resistant to some of the better and less dangerous medicines, so other medicine must be used It is important to learn from the Health Department or at a health center what medicines work best in your area

In many areas **chloroquine** is still the most useful medicine for malaria To completely get rid of some kinds of malaria, it may be necessary to take **primaquine** together with chloroquine

Pyrimethamine is mostly used for suppression of malaria

Chloroquine

Name in your area ______________

Often comes in
250 mg tablets of chloroquine phosphate, or 250 mg tablets of chloroquine sulfate } both have 150 mg of **chloroquine base**

Price ______ for______

injections, 200 mg in 5 ml Price ____ for____

Dosage for chloroquine by mouth
—tablets with 150 mg of chloroquine base—

For treatment of someone who has acute attacks of malaria

Give chloroquine tablets once daily for 3 days

Each day give

adults 4 tablets (600 mg of base)
children 8 to 14 years 3 tablets (450 mg base)
children 4 to 8 years 2 tablets (300 mg base)
children 1 to 4 years 1 tablet (150 mg base)
babies under 1 year ½ tablet (75 mg base)

For suppression of malaria with chloroquine

Give each week

adults 2 tablets (300mg base)
children 9 to 12 years 1¹/₃ to 2 tablets (200 to 300 mg base)
children 5 to 8 years 1 to 1¹/₃ tablets (150 tō 200 mg base)
children 1 to 4 years ¹/₃ to ²/₃ tablets (50 to 100 mg base)
babies under 1 year ¼ to ¹/₃ tablet (37 to 50 mg base)

If malaria is very common in the area give adults the same dose twice a week instead of once

For treatment of liver abscess caused by amebas

adults 3 or 4 tablets (500 mg of base) twice daily for 2 days and then 1½ or 2 tablets (250 mg of base) daily for 3 weeks
Give children less, according to age or weight

Injections of chloroquine when to give them

Injections of chloroquine should be given only rarely, in cases of great emergency If a person who shows signs of malaria, or lives in an area where there is a lot of malaria, is vomiting, having fits, (convulsions), or showing other signs of meningitis (see p 226), he may have cerebral malaria (malaria in the brain)

Take him to the health centre immediately. If the health centre is far away, **inject chloroquine at once.** Great care must be taken to **be sure the dose is right.**

Dosage for injecting chloroquine—(4 mg /kg)
—an ampule of 200 mg in 5 ml.—

Give the dose once only (inject ½ into each buttock)

Chloroquin injection can be very dangerous for children

Get medical help at once. This is a medical emergency.

Primaquine

Name in your area ____ price ____ for____

Primaquine is added to chloroquine treatment to keep some kinds of malaria from coming back It does not work well by itself for acute attacks

Often comes in tablets with 26 3 mg of primaquine phosphate, which contains 15 mg of primaquine base

Dosage for primaquine

Give once a day for 14 days

In each dose give

adults 1 tablet (15 mg base)
children 8 to 12 years ½ tablet (7 mg base)
children 3 to 7 years ¼ tablet (4 mg base)

Pyrimethamine

Name in your area ____ price ____ for____

Often comes in 25 mg tablets

Used mostly for suppression of malaria

Dosage of pyrimethamine **for suppression** of malaria

Each week give

adults 1 to 2 tablets (25mg to 50 mg base)
Children 5 to 12 years ½ tablet (12 5 mg base)
children 1 to 4 years ¼ to ½ tablet (6 25 to 12 5 mg base)
babies under 1 year ¼ a tablet (6 25 mg base)

For semi-suppression of malaria give the same dose, but only once every 2 or 4 weeks

WARNING · Too much pyrimethamine is dangerous Keep it where children cannot reach it

FOR AMEBAS AND GIARDIA

In diarrhea or dysentery caused by amebas there are usually frequent stools with much mucus and sometimes blood Often there are gut cramps, but little or no fever Amebic dysentery can be treated with **metronidazole,** Unfortunately, metronidazole is very expensive A less expensive (but not as good) medicine, which can be used together with tetracycline, is **diiodohydroxyquin.**

In order to kill all the amebas in the gut, very long (2 to 3 weeks) and expensive treatment is necessary It often makes more sense to stop giving medicines when the person has no more symptoms and then let the body defend itself against the few amebas that are left This is especially true in areas where the chance of getting a new infection is high

In diarrhea caused by giardia the stools are often yellow and frothy, but without blood or mucus Metronidazole is the best medicine, but **quinacrine** is cheaper

Tetracycline (see p 400)

Metronidazole (familiar brand name *Flagyl*)

Name in your area ____________________

Often comes in
tablets of 200 mg Price ____ for____

Metronidazole is useful for gut infections caused by amebas and giardia, and also for vaginal infections caused by trichomonas

CAUTION Do not drink alcoholic drinks when taking metronidazole as this causes severe nausea.

Dosage for **amebic dysentery**—(25 to 50 mg /kg / day) — 200 mg tablets

Give metronidazole 3 times a day for 10 days
In each dose give

adults 400 to 800 mg (2 to 4 tablets)
children 8 to 12 years 400 mg (2 tablets)
children 4 to 7 years 300 mg (1½ tablets)
children 2 to 3 years 200 mg (1 tablet)
children under 2 years 80 to 100 mg (1/3 to ½ tablet)

Dosage for **giardia** infection

Give metronidazole 3 times a day for 5 days

In each dose give

adults 200 mg (1 tablet)
children 8 to 12 years 200 mg (1 tablet)
children 3 to 7 years 100 mg (½ a tablet)
children under 3 years 50 mg (¼ a tablet)

Dosage for **trichomonas** infections of the vagina

The woman and man should **both** take 1 tablet (200 mg) three times a day for 7 to 10 days The woman should also use vaginal suppositories (see p 409) They should start treatment on the same day

WARNING Only take metronidazole by mouth for trichomonas infections of the vagina if the infection is very severe

Diiodohydroxyquin
(familiar brand name *Diodoquin*)

Name in your area________price ________ for____

Often comes in
tablets of 650 mg
vaginal inserts



Diiodohydroxyquin can be used to treat mild infections of the gut caused by amebas, or following treatment with tetracycline or metronidazole Diiodohydroxyquin does no good for prevention and should not be used for long periods of time because it may cause eye damage

Sulfur is useful for many skin problems

1. To avoid or discourage ticks, mites, and fleas Before going into fields or forests where these are common, dust the skin—especially legs or ankles wrists waist, and neck—with sulfur
2. To help treat scabies burrowing fleas, mites, and tiny ticks in or on the skin. Make an ointment Mix 1 part of sulfur with 10 parts of petrolatum *(Vaseline)* or oil, and smear this on the skin (see p. 241)
3. For ringworm tinia, and other fungus infections, use the same ointment, 3 or 4 times a day, or a lotion of sulfur and vinegar
4. For cradle cap (seborrhea) and severe dandruff, the same ointment can be used, or the scalp can be dusted with sulfur.

Gentian violet (crystal violet)

Often comes as dark blue crystals.

Gentian violet helps fight certain skin infections, including impetigo and sores with pus It can also be used to treat thrush (moniliasis) or yeast infection in the mouth, the vulva, and in skin folds It can also be applied on burns

Dissolve a teaspoon of gentian violet in half a liter of water This makes a 0 5% solution Paint it on the skin or in the mouth or the vulva

Potassium permanganate

Comes in dark red crystals Price_____ for___

This makes a good antiseptic (germ-killing) solution for soaking infected sores Put a pinch of the crystals in a liter of water (1 part potassium permanganate to 1000 parts of water) Potassium permanganate can also be used to make a **Sitz Bath** (see p 213) for relieving pain in piles and anal fissure

Antibiotic ointments

Name in your area_____ price _______ for______

These are expensive and often do no more good than gentian violet However they do not color the skin or clothes and are of use in treating minor skin infections like impetigo A good ointment is one that contains a neomycin/polymyxin combination (for example *Neosporin* or *Polysporin*) An ointment of tetracycline can also be used

Cortico-steroid ointments or lotions

Name in your area_____ price _______ f

These are very expensive They are useful in treating severe Eczema (p 257) Do not use if the skin is infected Avoid ointment containing corticosteroid with an antibiotic

Petroleum jelly (petrolatum, *Vaseline*)

Price _______ for_____

Useful for preparing ointments or dressings in the treatment of scabies (see next page)
ringworm (see below)
itching from pinworm (p 194)
burns (p. 109 - 111)
chest wound (p. 104)

Zinc oxide

Price:_____ for___

Application of this as either cream or lotion will help to prevent prickly heat This also helps to prevent sunburn of white patches in the case of vitiligo (see p 248)

Tincture iodine (mild)

price________ for ___

This can be painted on small cuts and wounds as an antiseptic This can also be used for goiter (see p 152 Put 1 drop of tincture iodine in a glass of water Be careful not to put more as it is dangerous

FOR RINGWORM AND OTHER FUNGUS INFECTIONS

Many fungus infections are very difficult to get rid of For complete control, treatment must be continued for days or weeks after the signs disappear Bathing and cleanliness are also important

Ointments with undecylenic, benzoic, or salicylic acid

Familiar brand name ***Whitfield's Ointment, Tineafax***

Name in your area_____ price _______ for______

Ointments with these acids can be used to treat ringworm, tinia of the scalp and other fungus infections of the skin. Often they are (or can combined with sulfur. Ointments with acid and sulfur can also be used for (seborrhea).

FOR WORMS

Medicines by themselves are not enough to get rid of worm infections for very long Guidelines of personal and public cleanliness must also be followed When 1 person in the family has worms, it is wise to treat the whole family together

Piperazine—for Ascaris (roundworm) and Enterobius (threadworm or pinworm)
Familiar brand name ***Antepar***

Name in your area ____________

Comes as piperazine citrate, tartrate, hydrate, adipate, or phosphate

Often comes in
500 mg tablets Price ____ for ____
Mixture, 500 mg in 5 ml Price ____ for ____

Treatment for Ascaris is for 2 days Smaller doses everyday for 1 week are given for Enterobius There are few side effects

Dosage of piperazine for **roundworm** (Ascaris)—(75mg /kg /day)
—500 mg tablets or mixture with 500 mg in 5 ml —

Give 1 dose once a day for 2 days

In each dose give

adults 4 gm (8 tablets)
children 8 to 12 years 3 gm (6 tablets)
children 3 to 7 years 2 gm (4 tablets)
children 1 to 3 years 1 gm (2 tablets)
babies under 1 year 250mg (½ tablet)

Dosage of piperazine for **pinworm** (Enterobius)—50mg /kg /day)

Give 1 dose daily for a week

in each dose give

adults 2½ gm (5 tablets)
Children 8 to 12 years 750mg (1½ tablets)
children 3 to 7 years 500mg (1 tablet)
children under 3 years 250 mg (½tablet)

Thiabendazole—for many different worm infections
familiar brand name ***Mintezol***

Name in your area ____ price ______ for ______

Often comes as 500 mg tablets or mixture with 1 gm in 5 ml

This can be used to treat hookworm, whipworm (Trichuris), and another worm called *Strongyloides It works for roundworm and* pinworm, but piperazine has fewer side effects It may do some good in cases of trichinosis

CAUTION Thiabendazole may cause Ascaris (roundworm) to crawl up the throat This can block breathing Therefore, if you suspect a person has Ascaris in addition to other worms, it is wise to treat first with piperazine before giving thiabendazole

Side effects Thiabendazole often causes tiredness, a sick feeling, giddiness and sometimes vomiting

Dosage for thiabendazole—(50 mg /kg /day)
—500 mg tablets or mixture with 1 gm in 5 ml —

Give twice a day for 3 days Tablets should be chewed

In each dose give

adults 1500 mg (3 tablets or 1½ teaspoons)
children 8 to 12 years 1000 mg (2 tablets or 1 teaspoon)
children 3 to 7 years 500 mg (1 tablet or ½ teaspoon)
children under 3 years 250 mg (½ tablet or ¼ teaspoon)

Mebendazole *Wormin Mebex)*

Name in your area ____ price ______ for ____

Often comes in tablets of 100 mg

A new medicine similar to Thiabendazole, but better Works against hookworm, whipworm, Strongyloides, roundworm, and pinworm (threadworm) Works well for mixed infections When treating heavy worm infections there may be some gut pain or diarrhea, but mebendazole does not cause vomiting or the severe side effects common when taking Thiabendazole With mebendazole, roundworm need not be treated first with other medicine

WARNING Do not give mebendazole to pregnant women or children under 2 years old

Dosage *of mebendazole—using 100 mg tablets*—

Give the same amount to children and adults

months For complete treatment take sulfa tablets by mouth also (see p 265)

Antibiotic eye ointment - for conjunctivitis

Useful examples **Oxytetracyclin or chlortetracyclin** eye ointment *(Terramycin ointment)*

Name in your area ____________ price for

These eye ointments can also be used for infections of the eye that are resistant to sulfacetamide eye drops

For an eye ointment to do any good it must be put inside the eyelid not outside Use it 3 or 4 times a day Putting eye ointment before going to bed, helps to prevent the crust forming

Silver nitrate eye drops, 1 per cent - to protect eyes of newborn babies

price———for——————

At birth put a drop of 1 percent Silver Nitrate in each eye This protects the babies eyes against infection from gonorrhea All babies should receive this protection

FOR EARACHE AND EAR INFECTION

Boroglycerine ear drops for wax in the ear

Price for

In case of mild ear infection put in 2 to 3 drops of boroglycerine in each ear once or twice a day

Ear drops with chloramphenicol

Name in your area ____________ price for

Often comes in 5 percent in 10 ml

In case of severe ear infections clear ear with clean piece of cotton and then put in ear drops with chloramphenicol 2 to 3 times a day
Put atleast 3—5 drops at a time

FOR PAIN: ANALGESICS

Note: There are many different kinds of pain medicine, many of which are dangerous (especially those containing **dipyrone**) Use only those you are sure are relatively safe like **aspirin** and **acetaminophen** For a stronger painkiller see **codeine** (p 418)

Aspirin (acetylsalicylic acid)
Familiar brand name *Disprin*

Name in your area

Often comes in
300 mg tablets Price ______ for___
75 mg tablets for children
(or 'child's aspirin') Price ______ for___

Aspirin is a very useful, low-cost 'painkiller or analgesic It helps to calm pain, lower fever, and reduce inflammation It also helps a little to calm cough and reduce itching

Many different medicines sold for pain, arthritis, or colds contain aspirin, but they are more expensive and often do not do any more good than aspirin alone

Risks and Precautions

1 Do not use aspirin for stomach pain or indigestion Aspirin is acid and may make the problem worse For the same reason, **persons with stomach ulcers should never use aspirin**
2 Aspirin causes stomach pain or 'heartburn' in some persons To avoid this, take aspirin with milk, a little bicarbonate of soda, or a lot of water—or together with meals
3 Do not give more than 1 dose of aspirin to a dehydrated person until he begins to urinate well
4 It is better not to give aspirin to babies under 1 year old or to persons with asthma (this may bring on an attack)
5 Keep aspirin where children cannot reach it Large amounts can poison them

Dosage of aspirin—for pain or fever
—tablets of 300 mg (5 grains)—

Take once every 4 to 6 hours (or 4 to 6 times a day)

adults 1 or 2 tablets (300 to 600 mg)
children 8 to 12 years 1 tablet (300 mg)
children 3 to 7 years ½ tablet (150 mg)
children 1 to 2 years old ¼ tablet (75 mg)

(Dose may be doubled for severe arthritis or rheumatic fever Or give 100 mg /kg /day If ringing of the ears develops, lower the dose)

—75 mg 'child's aspirin' tablets—

Give children aspirin 4 times a day

children 8 to 12 years 4 tablets (300 mg)
children 3 to 7 years 2 to 3 tablets (150 to 225 mg)
children 1 to 2 years 1 tablet (75 mg)
do not give aspirin to children under 1 year old

Dosage for belladonna—for gut cramps
—tablets with 8 mg belladonna—

adults 1 tablet, 3 to 6 times a day
children 8 to 12 years 1 tablet, 2 or 3 times a day
children 5 to 7 years ½ tablet, 2 or 3 times a day
do not give to children under 5 years

WARNING: These medicines are poisonous if too much is taken Keep out of reach of children

Persons with glaucoma should not take medicines that contain belladonna or atropine

FOR ACID INDIGESTION, HEARTBURN, AND STOMACH ULCERS: ANTACIDS

Aluminum hydroxide with magnesium hydroxide (or trisilicate)

Name ________________ price ________ for___

Often comes in tablets of 500 to 750 mg, or in mixtures with 300 to 500 mg in 5 ml

These can be used occasionally for acid indigestion or heartburn or as a regular part of treatment of a stomach (peptic) ulcer The most important time to take antacids is 1 hour after meals and at bedtime Chew 2 or 3 tablets For severe stomach ulcers, it may be necessary to take 3 to 6 tablets (or teaspoons) every hour

Sodium bicarbonate (bicarbonate of soda, baking soda)

Comes as a white powder   Price ________ for___

As an antacid, this should be used in a very limited way, when someone has an occasional stomach upset, with 'heartburn' or acid indigestion **It should not be used in treating chronic indigestion or stomach (peptic) ulcers** Although it seems to help at first, it causes the stomach to produce more acid, which soon makes things worse 'Soda' is also useful for the 'hangover' of a person who has drunk too much alcohol the night before For this purpose (but not for acid indigestion) it can be taken with aspirin *Alka-Seltzer* is a combination of sodium bicarbonate and aspirin As an **occasional** antacid, mix ½ teaspoon of sodium bicarbonate with water and drink it Do not use often

For cleaning teeth, baking soda or a mixture of 'soda' and salt, can be used instead of toothpaste (see p 274)

To prepare **Rehydration Drink** using sodium bicarbonate, see p 182 and also the next page

WARNING: Persons with certain heart problems (failure) or with swelling of the feet or face should not take sodium bicarbonate or other products high in sodium (like salt)

FOR DEHYDRATION

Rehydration Mix

Name ________________ price ________ for___

Often comes in packets for making 1 liter

Instructions for making Rehydration Drink with ordinary sugar are on page 182

Health Departments of some countries supply rehydration mix in individual envelopes, for making 1 liter of Rehydration Drink These mixes contain ***glucose,*** instead of ordinary sugar, or ***sucrose.*** Glucose is a simpler form of sugar that is more easily used by the child's body than regular sugar Glucose also helps the liquid get into the baby's body *more quickly It is especially* important to use glucose rather than sucrose if a child has very severe diarrhea or is very malnourished Standard rehydration mixes also contain potassium salt, which helps balance the ordinary salt

If you can get both glucose and potassium chloride, make the following Rehydration Drink instead of the one on page 182 Mix

boiled water, 1 liter (4 cups)
glucose powder, 20 gm or 8 level teaspoons
ordinary salt (sodium chloride), 2 gm or ½ level teaspoon
baking soda (sodium bicarbonate) 2 gm or ½ level teaspoon
potassium chloride, 1 5 gm, or 1/3 level teaspoon

If you have glucose, but not potassium chloride, use only half the above amounts of salt and baking soda

FOR COUGH

Cough is the body's method for cleaning the air tubes that go to the lungs and preventing germs and mucus in these tubes from getting into the lungs Because cough is part of the body's defense, medicines that stop or calm cough sometimes do more harm than good These **cough-calmers** (or cough *suppressants*) should be used only for irritating, dry coughs that do not let a person sleep There are other medicines, called **cough-helpers** (or *expectorants*) that help make mucus more liquid and easier to cough up For most coughs, it is better to use a cough helper than a cough-calmer

In truth, both kinds of cough syrups (cough-calmers and cough-helpers) are used far more than they need to be Most popular cough syrups do little or no good and are a waste of money **The best and most important cough medicine is water** Drinking a lot of water and breathing hot water vapors loosens mucus and helps calm cough far better than most cough syrups For instructions, see page 205 Also, instructions for a homemade cough syrup are given on page 206

Cough-calmers (cough suppressants): codeine and chloral hydrate

Name ______________ price ________ for____

Often comes in cough syrups or liquid (Codeine also comes in tablets, with or without aspirin)

Codeine is a strong painkiller and also one of the most powerful cough-calmers, but because it is habit-forming (narcotic), it may be hard to get It often comes in cough syrup combinations or in tablet form For dosage, follow the instructions that come with the preparation Less is needed to calm cough than to control pain To calm cough in adults, 7 to 15 mg of codeine is usually enough Children should be given less, according to age or weight (see p 74)

Chloral hydrate is a sedative that can be given to a child who coughs so much at night he cannot sleep It is especially useful for whooping cough Phenobarbital can also be used for whooping cough (see p 422)

Dosage of chloral hydrate to calm cough
—using standard chloral cough mixture (Chloral elixir BPC)—

Give up to 4 doses a day, not more

children over 2 years old 10 ml (2 teaspoons)
babies under 2 years from 1¼ teaspoon to 1½ teaspoon Smaller babies should be given smaller doses

Cough-helpers (expectorants). potassium iodide

Name ______________ price ________ for____

Often comes in tablets of 300 mg or in a standard (saturated) solution

Potassium iodide helps loosen thick mucus in the tubes to the lungs

Dosage of potassium iodide as a cough helper

Give 3 or 4 times a day

In each dose give

adults one 300 mg tablet, or 10 drops of the solution
children should be given less according to age or weight (see p 74)

FOR ASTHMA

To help prevent and manage asthma correctly, see page 204

Ephedrine

Name ______________ price ________ for____

Often comes in tablets of 15 mg (also 25 mg)

Ephedrine is useful to control mild attacks of asthma and between severe attacks to prevent them It works by helping open the tubes that lead into the lungs, so that air can pass more easily It can also be used when there is difficulty breathing due to pneumonia or bronchitis

Ephedrine often comes in combination with **theophylline** or **aminophylline**, and sometimes **phenobarbital** *Tedral* is a well-known brand name medicine for asthma with this combination, but it is expensive

Dosage of ephedrine for asthma—
(1 mg /kg / 3 times a day)
—using 15 mg tablets—

One antihistamine is all that is usually needed in a medical kit Promethazine is a good choice Because it is not always available, doses for other antihistamines are also given

As a general rule, antihistamines are best given by mouth Injections should be used only to help *control severe vomiting or before giving antitoxins* (for tetanus, snakebite, etc) when there is special danger of allergic shock

Promethazine ***(Phenergan)***

Name ______________________

Often comes in
tablets of 25 mg 25 mg price ______ for___
injections—ampules of 25 mg in 1 ml
Price ______ for___

Dosage of promethazine—(1mg /kg /day)
—using tablets of 25 mg —

Give by mouth 2 *times a day*

In each dose give

adults 25 to 50 mg (1 to 2 tablets)
children 7 to 12 years 12 5 to 25 mg (½ or 1 tablet)
children 2 to 6 years 6 to 12 mg (¼ or ½ tablet)
babies 1 year old 4 mg
babies under 1 year 3 mg

—using intramuscular (IM) injections, 25 mg in a ml —

Inject once, and again in 2 to 4 hours, if necessary

In 1 dose inject

adults 25 to 50 mg (1 to 2 ml)
children 7 to 12 years 12 5 to 25 mg (½ to 1 ml)
children under 7 years 6 to 12 mg. (¼ to ½ ml)
babies under 1 year 2 5 mg (0 1 ml)

Chlorpheniramine *(Avil)*

Name ______________ price ______ for___

Often comes in 4 mg tablets (also tablets of other sizes, syrups, etc)

Dosage for chlorpheniramine

Take 1 dose 3 or 4 times a day

In each dose give

adults 4 mg (1 tablet)
children under 12 2 mg (½ tablet)
babies 1 mg (¼ tablet)

Dimenhydrinate ***(Dramamine)***

Name ______________ price ______ for___

Often comes in 50 mg tablets, also syrups with 12 5 mg in a teaspoon, also suppositories to put up the anus

This is sold mostly *for motion sickness, but can* be used *like other antihistamines to calm allergic* reactions and to encourage sleep

Dosage of dimenhydrinate

Take up to 4 times a day

In each dose give

adults 50 to 100 mg (1 or 2 tablets)
children 7 to 12 years of age 25 to 50 mg (½ to 1 tablet)
children 2 to 6 years 12 to 25 mg (¼ to ½ tablet)
children under 2 years 6 to 12 mg (1/8 to ¼ tablet)

ANTITOXINS

WARNING.

All antitoxins made from horse serum, such as tetanus antitoxin and the antivenins for snakebite and scorpion sting, run a risk of causing a dangerous allergic reaction (allergic shock, see p 83) Before you inject an antitoxin, **always have** ***Adrenalin*** **ready in case of an emergency.** In persons who are allergic, or who have been given any kind of antitoxin made of horse serum before, it is a good idea to inject an antihistamine like promethazine *(Phenergan)* or diphenhydramine *(Benadryl)* 15 minutes before giving the antitoxin

Powdered charcoal (or activated charcoal)— for swallowed poison

Price __________ for____

Charcoal soaks up swallowed poisons and makes them less harmful

Dosage of powdered charcoal

Upto 50 mg can be given depending on the amount of poison taken

FOR FITS (CONVULSIONS)

Phenobarbital (phenobarbitone)

Often comes in
- tablets of 15 mg Price ______ for___
- ampules of 200 mg in 1 ml Price ______ for___

Phenobarbital can be taken by mouth to help prevent fits (convulsions) and the spasms of tetanus For the fits or convulsions of epilepsy, sometimes it is necessary to take it in combination with **diphenylhydantoin** For epilepsy, it is often necessary to continue the medicine for life The lowest dose that prevents fits should be used Low doses of phenobarbital can also be used to help lessen the cough of whooping cough or to help control severe vomiting

WARNING Too much phenobarbital can slow down or stop breathing Its action begins slowly and lasts a long time (up to 24 hours, or longer if the person is not urinating) **Be careful not to give too much!**

Dosage of phenobarbital—(3 to 6 mg /kg /day)
—using tablets of 30 mg

Give 1 dose by mouth 3 times a day
In each dose give

adults 30 to 120 mg (1 to 4 tablets)
children from 7 to 12 years 15 to 30 mg (½ to 1 tablet)
children under 7 years 15 mg (½ tablet)

To control the spasms of tetanus, it may be necessary to give twice the dose of phenobarbital shown above—but do not give more than that

Phenobarbital injections can be given to stop an epileptic fit or the spasms of advanced tetanus

Dosage for phenobarbital injections
—using ampules with 200 mg in 1 ml —

Give 1 injection, intramuscular

adults 200 mg (1 ml.)
children 7 to 12 years 150 mg (3/4 ml)
children 2 to 6 years 100 mg (½ ml)
children under 2 years 50 mg (¼ ml)

If the fit does not stop, 1 more dose can be given after 15 minutes, but then give no more For tetanus repeat the dose 3 times a day, and if the spasms are controlled, begin to lower the dose a little at a time

Diphenylhydantoin (phenytoin, *Dilantin*)

Name ______________ price ______ for__

Often comes in capsules of 100 mg

This helps prevent the fits of epilepsy The medicine must often be taken for life Sometimes it works better, or in smaller doses, when taken together with phenobarbital The lowest dosage that prevents fits should be used

Side effects Diphenylhydantoin causes swelling and abnormal growth of the gums in some people If this is severe, another medicine should be used instead

Dosage of diphenylhydantoin for fits—
(5 mg /kg /day)
—using capsules of 100 mg —

Start with the following dose once a day

In each dose take

adults 100 to 300 mg (1 to 3 capsules)
children 6 to 12 years 100 mg (1 capsule)
children under 6 years 50 mg (½ capsule)

If fits are not completely prevented with this dose, up to twice this dose can be given but not more

If fits are prevented, try lowering the dose a little at a time, until you find the lowest dose that prevents the fits

Diazepam *(Valium)*

Name ______________ price ______ for___

Often comes in injections of 5 mg in 1 ml of liquid

To prevent severe bleeding after giving birth or to lessen the amount of blood loss (especially in mothers who are anemic) give 1 tablet 3 or 4 times daily, beginning when the afterbirth comes out If bleeding is heavy, 2 tablets can be given in each dose.

Oxytocin ***(Pitocin)***

Name ________________ price ________ for___

Often comes in ampules of 10 units in 1 ml

To help stop severe bleeding of the mother **after** the baby is born and **before** the afterbirth comes out (Also helps bring the afterbirth out, but should not be used for this unless there is severe bleeding or great delay.)

Dosage of oxytocin for the mother after the baby is born

Inject ½ ml (5 units) If severe bleeding continues, inject another ½ ml in 15 minutes

FOR PILES (HEMORRHOIDS)

Suppositories for hemorrhoids

Name ________________ price ________ for___

These are special bullet-shaped tablets to be put up the anus They help make hemorrhoids smaller and less painful There are many different preparations Those that are often most helpful temporarily but are more expensive contain **cortico-steroid** Special ointments are also available. Preparation H and Lignocaine Jelly are two such ointments and their functions are same as above

Dosage

Put a suppository up the anus after the daily bowel movement, and another on going to bed A stool softener can also be used.

FOR MALNUTRITION AND ANEMIA

Mixed (or multi) vitamins

Name ________________ price ________ for___

These come in many forms, but tablets are usually cheapest and work well Injections of vitamins are rarely necessary, are a waste of money, cause unnecessary pain and sometimes abscesses Tonics and elixirs often do not have the most important vitamins and are usually too expensive for the good they do Nutritious food is the best source of vitamins If additional vitamins are needed, use vitamin tablets

In some cases of poor nutrition added vitamins may help Be sure the tablets used contain the important vitamins the person needs (see p 139).

Using standard tablets, 1 tablet daily is usually enough

Vitamin A—for night blindness and xerosis

Name ________________ price ________ for___

Often comes as capsules of 200,000 units, 60 mg of retinol (also in smaller doses)

injections of 100,000 units

WARNING Too much vitamin A can cause fits Do not give too much, and keep out of the reach of children

For prevention: In areas where night blindness and xerosis are common problems in children, they should eat more yellow fruits and vegetables and dark green leafy foods as well as animal foods, such as eggs and liver. Fish liver oil is high in vitamin A Or vitamin A capsules can be given Give 1 capsule once every 6 months—no more for prevention

For treatment: Give 1 vitamin A capsule (200,000 units) by mouth If eyes are not normal in a week, give another capsule In severe cases give an injection of 100,000 units vitamin A at once

Iron sulfate (ferrous sulfate)—for anemia

Name ________________ price ________ for___

Often comes in tablets of 200, 300, or 500 mg (also in drops, mixtures, and elixirs for children)

Ferrous sulfate is useful in the treatment of most anemias Treatment with ferrous sulfate by mouth usually takes at least 3 months If improvement does not take place, the anemia is probably caused by something other than lack of iron Get medical help If this is difficult, try treating with folic acid

Ferrous sulfate sometimes upsets the stomach and is best taken with meals For children under 3 years ¼th of the tablet can be ground up very fine and mixed with the food

WARNING Be sure the dose is right Too much ferrous sulfate is poisonous Keep tablets out of the reach of children

Familiar brand names for birth control pills

Minovlar - Ed Norlestrin Orlest - 28 Ortho-Novin 1/50, Ortho-Novin 1/80 Ovral, Ovulen Primovlar 30 Primovlar 50

Condoms (Rubbers, Prophylactics, Sheaths)

Name ________________ price ______ for____

Often come in packages of 3

There are many different brands of condoms, some far more costly than others Some are lubricated (oiled). Some come in different colors

Use and care of condoms is described on page 336

Diaphragm

Name ____________________ price ________

To be most effective, the diaphragm should be used with a special cream or jelly, which should be spread on the rim before it is put into the vagina (see p 336)

Name of jelly or cream __________ price ______

Contraceptive Foam

Name ______________________ price ______

For discussion of the use of foam, see page 336

Intrauterine Device (IUD)

Name ______________________ price ______
fee for putting it in _____

For information on IUDs, see page 336 There are several different kinds One of the first and best kinds is the **Lippes loop** A newer kind that works well is called the **Copper T.** One kind of IUD, the **Dalkon Shield,** causes more problems than other kinds and should not be used

IUDs can be used by women who have never had a child, but are more likely to come out or cause other problems

The best time to have an IUD put in is while the woman is having her period or just after

VOCABULARY

This vocabulary is listed in the order of the alphabet
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Words marked with a star (*) are usually not used in this book but are often used by doctors or found on package information of medicines

Most names of sicknesses are not included in this vocabulary See the Index (yellow pages) and read about the sickness in the book.

A

Abdomen The part of the body that contains the stomach, liver, and guts The belly

Abnormal Different from what is usual, natural, or average Not normal

Abscess A sac of pus caused by bacterial or other infection For example, a boil

Acne (pimples) A skin problem causing bumps on the face, chest, or back that form small white 'heads' of pus or sometimes 'black-heads' of dirt Most common in young people (*adolescents*)

Acute Sudden and short-lived An acute illness is one that starts suddenly and lasts a short time The *opposite of 'chronic'*

Acute abdomen An emergency condition of the abdomen that often requires a surgical operation Severe pain in the belly with vomiting and no diarrhea may mean an acute abdomen

Adolescent The years in which a child becomes an adult The teens 13 to 19 years old

Afterbirth See **Placenta**

Alcoholism A continual need a person cannot control to overuse alcoholic drinks such as beer, rum, wine, etc

Allergy, allergic reaction A problem such as an itching rash hives sneezing, and sometimes difficult breathing or shock that affects certain people when specific things are breathed in, eaten, injected, or touched

Amebas (also amoebas) Tiny animals that live in water or in the gut and can only be seen with a microscope They can cause diarrhea, dysentery, and liver abscess

Anal Fissures Sometimes when a person passes hard stools he may tear the anal opening This produces terrible pain with a burning feeling and lasts for two or three hours after a bowel movement The anus produces a watery discharge at the site of the tear and this causes itching The tear can also get infected

Analgesic Medicine to calm pain

Anemia A disease in which the blood gets thin for lack of red blood cells Signs include tiredness, pale skin, and lack of energy See also **Pernicious anemia**

Antacid Medicine used to control too much stomach acid and to calm stomach upset

Antibiotic Medicine that fights infections caused by bacteria

***Antiemetic** Vomit-control medicine A medicine that helps keep people from vomiting or feeling nauseous

Antihistamine Medicine used to treat allergies such as hay fever and itching Also helps control vomiting and causes sleepiness

Antiseptic A soap or cleaning liquid that prevents growth of bacteria

Antispasmodic Medicine used to relieve cramps or spasms of the gut

Antitoxin Medicine that acts against or neutralizes a poison or toxin Often made from the blood serum of horses

Antivenin (anti-venom) An antitoxin used to treat poisoning from a venom, such as snake poison

Anus The opening at the end of the gut between the legs asshole

Aorta The main artery or vessel that carries blood out of the heart to the body

Apoplexy An old word for stroke See **Stroke**

Appendix A finger-like sac attached to the large intestine (gut)

Appropriate Something that is easiest, safest, and most likely to work in a particular situation or condition

Artery A vessel carrying blood from the heart through the body Arteries have a pulse Veins which return blood to the heart, have no pulse

Ascaris (roundworm) Large worms that live in people's intestines and cause discomfort, indigestion, weakness and sometimes gut obstruction (blocking of the gut)

B

Bacteria Tiny germs that can only be seen with a microscope and that cause many different infectious diseases

Bag of waters The sac inside the womb that holds the baby amniotic sac When it breaks, releasing its fluid, this usually means that labor has begun

Bedsores Chronic open sores that appear in people who are so ill they do not roll over or change position in bed

Bewitchment The act of casting a spell or influencing by witchcraft, hexing Some people believe that they get sick because a witch has bewitched them or given them the 'evil eye'

Bicycle Ambulance This is a simple and easy-to-make ambulance This is made by making a stretcher on a wheeled frame and attached with the bicycle It helps to take the patient to the health centre faster and with comfort

Bile A bitter, green liquid made by the liver and stored in the gallbladder It helps digest fat

Birth defects See **Defects**

Blackhead A small plug or 'head of dirt blocking a pore in the skin of the face, chest, or back A kind of pimple

Bladder stones See **Kidney stones**

Blood pressure The force or pressure of the blood upon the walls of the blood vessels (arteries and veins), it varies with the age and health of the person

Boil A swollen inflamed lump with a pocket of pus under the skin A kind of abscess

Booster A repeat vaccination to renew the effect of an earlier series of vaccinations

Bowel movement To have a bowel movement is to defecate, to shit, the way of passing solid waste out of the body

Brand name Trade name The name a company gives to its product A brand-name medicine is sold under a special name and is often more expensive than the same generic medicine

Breast abscess See **Mastitis**

Breech delivery A birth in which the baby comes out buttocks or legs first

Broad-spectrum antibiotic A medicine that works against many kinds of micro organisms Compare with a narrow spectrum antibiotic, which works against only a few

Bronchi The tubes leading to the lungs, through which air passes when a person breathes

Bronchiectasis It develops when the elastic tissue of the lung is damaged by infection caused by too much smoking or by inhaling too much dust

Bronchitis An infection of the bronchi

Bubo A very swollen lymph node **Bubos** is a common name for lymphogranuloma venereum

Bukhar (Fever) A commonly used name for all illnesses that cause high temperature including those of serious nature also which sometimes are not just 'fever'

Buttocks The part of the body a person sits on, ass, arse, rump, behind, backside, butt

C

Cancer A tumor or lump that grows and may keep growing until it finally causes death

Carbohydrates Starches and sugars Foods that provide energy

Cast A stiff bandage of gauze and plaster that holds a broken bone in place until it heals

Cataract An eye problem in which the lens of the eye becomes cloudy making it more and more difficult for the person to see The pupil looks gray or white when you shine a light into it

Catheter A rubber tube used to drain urine from the bladder

Cavity A hole or spot of decay in a tooth where bacteria have got in and destroyed part of the tooth

Centigrade (C) A measure or scale of heat and cold A healthy person's temperature (normal temperature) is 37°C Water freezes at 0°C and boils at 100°C

Cerebro-vascular accident, CVA See **Stroke.**

Cervix The opening or neck of the womb at the back of the vagina

Chancre A painless sore or ulcer on the genitals, finger, or lip that is one of the first signs of syphilis

Chigger A tiny, crawling spider or tick-like animal that buries its head under the skin and sucks blood

Childbirth fever (This is also called childbed fever, postpartum infection, or puerperal infection) The fever and infection that mothers sometimes develop after childbirth

Chronic Long term or frequently recurring (compare with acute) A chronic disease is one that lasts a long time

Circulation The flow of blood through the arteries and veins by the pumping of the heart

Cleft Divided, separated A child born with a cleft palate has a separation or abnormal opening in the roof of his mouth

Climacteric Menopause

Colic Sharp abdominal pains caused by spasms or cramps in the gut

Colostrum The first milk a mother's breasts produce It looks watery but is rich in protein and helps protect the baby against infection

Coma A state of unconsciousness from which a person cannot be wakened It is caused by disease, injury or poison, and often ends in death

Community A group of people living in the same village or area who have similar living conditions, interests, and problems

***Complications** Secondary health problems that sometimes develop in the course of a disease For example, meningitis may result as a dangerous complication of measles

Compost A mixture of plant and animal waste that is allowed to rot for use as a fertilizer Hay, dead leaves, vegetable waste, animal droppings, and manure all make good compost

Compress A folded cloth or pad put on a part of the body It may be soaked in hot or cold water

Conjunctiva A thin, protective layer that covers the white of the eye and inner side of the eyelids

Consciousness See **Loss of consciousness.**

Constipation Dry, hard, difficult stools (bowel movements) that do not come often

Consumption An old name for tuberculosis

Contact Touch Contagious diseases can be spread by a sick person coming in contact with (touching or being close to) another person

Contagious disease A sickness that can be spread easily from one person to another

Contaminate To dirty, stain, or infect by contact A syringe that has not been boiled is often contaminated and can cause infections, even though it looks clean

Contraceptive Any method of preventing pregnancy

Contractions Tightening or shortening of muscles The strong contractions of the womb when a woman is in labor help to push the baby out of the womb

***Contraindication** A situation or condition when a particular medicine should not be taken (Many medicines are contraindicated in pregnancy)

Convulsions An uncontrolled fit A sudden jerking of part or all of the person's body, as in meningitis or epilepsy

Cornea The clear outer layer or 'window' of the eye, covering the iris and pupil

Corns Hard, thick, painful parts of the skin formed where sandals or shoes push against the skin or one toe presses against another

Cramp A painful tightening or contraction of a muscle

Cretinism A condition in which a child is born mentally slow and often deaf It is usually due to lack of iodine in the mother's diet

Cupping A home remedy that consists of drawing blood to the surface of the body by use of a glass or cup with a flame under it

Cyst An abnormal sac like, liquid-filled growth developing in the body

D

Dandruff Oily white or grayish flakes or scales that appear in the hair Seborrhea of the scalp

Daura Any attack of fits or unconsciousness sudden attack of breathlessness palpitation or pain is commonly termed as daura and sometimes is mistaken for other diseases

Decongestant A medicine that helps relieve swelling or stuffiness of the nose or sinuses

Defects Birth defects are physical or mental problems a child is born with, such as a hare lip, club foot, or an extra finger or toe

Deficiency Not having enough of something, a lack

Deformed Abnormally formed, not having the right shape

Dehydration A condition in which the body loses more liquid than it takes in This lack of water is especially dangerous in babies

Delirium A state of mental confusion with strange movements and speech, it may come with high fever or severe illness

***Dermal** Of the skin

Dermatitis An infection or irritation of the skin

Diaper rash Reddish, irritated patches between a baby's legs caused by urine in his diapers (nappy) or bedding

Diarrhea Frequent runny or liquid stools

Diet The kinds and amounts of foods that a person should eat or avoid eating

Discharge A release or flowing out of fluid, mucus, or pus

Dislocations Bones that have slipped out of place at a joint

Douche A way to wash out the vagina by squirting a stream of water up into it

Drowning When a person stops breathing (suffocates) from being under water

Dysentery Diarrhea with mucus and blood *It is usually caused by an infection*

E

***Eclampsia** Sudden fits, especially during pregnancy or childbirth The result of toxemia of pregnancy

Elephantiasis An infection caused by a worm that affects the lymphatic system of the body It is spread by a certain type of mosquito that sucks the worms along with the blood of an infected person and injects them into the next person it bites

Embryo The beginnings of an unborn baby when it is still very small

Emergency A sudden sickness or injury that calls for immediate attention

***Emetic** A medicine or drink that makes people vomit Used when poisons have been swallowed

Enema A solution of water put up the anus to cause a bowel movement

Epidemic An outbreak of disease affecting many persons in a community or region at the same time

Evaluation A study to find out the worth or value of something, or how much has been accomplished Often done by comparing different factors or conditions before and after a project or activity is underway

Evil eye A glance or look from someone believed to have the power to bewitch or do harm to people

Exhaustion Extreme fatigue and tiredness

***Expectorant** A medicine that helps a person cough up mucus from the respiratory tract (lungs, bronchi, etc), a cough helper

Expiration date The month and year marked on a medicine that tells when it will no longer be good Throw away most medicines after this date

F

Fahrenheit (F.) A measure or scale of heat and cold A healthy person's temperature (normal temperature) is 98 6°F Water freezes at 32°F and boils at 212°F

Family planning Using birth control methods to plan when to have and not have children

Farsighted Being able to see things at a distance better than things close at hand

Feces Stools, shit, the waste from the body that is moved out through the bowels in a 'bowel movement'

Feces-to-mouth Spread or transmitted from the stools of one person to his or another person's mouth, usually by food or drink, or on fingers

Fetoscope An instrument or tool for listening to sounds made by the unborn baby (fetus) inside the womb

Fetus (foetus) The developing baby inside the womb

Fever A body temperature higher than normal

First aid Emergency care or treatment for someone who is sick or injured

Fit A sudden, violent attack of a disease, causing convulsions or spasms (jerking of the body that the person cannot control), and sometimes unconsciousness

Flu A bad cold, often with fever, pain in the joints, and sometimes diarrhea

Flukes Worms that infect the liver or other parts of the body and cause different diseases

Blood flukes get into the blood and cause schistosomiasis

Foetus See **Fetus**

Folic acid A nutritious substance found in leafy green vegetables

Follicles Small lumps

Fontanel The 'soft spot' on the top of a young baby's head

Fracture A broken bone

Fright A great or sudden fear

G

Gallbladder A small, muscular sac attached to the liver The gallbladder collects bile, a liquid that helps digest fatty foods

Gauze A soft, loosely woven kind of cloth used for bandages

Generic name The scientific name of a medicine, as distinct from the brand names given it by different companies that make it

Genitals The organs of the reproductive system, especially the sex organs

Germs Very small organisms that can grow in the body and cause some infectious diseases, micro-organisms

Giardia A tiny, microscopic parasite that can infect the intestines, causing frothy yellow diarrhea

Glucose A simple form of sugar that the body can use quickly and easily It is found in fruits and honey, and can be bought as a white powder for use in Rehydration Drinks

Goiter A swelling on the lower front of the neck (enlargement of the thyroid gland) caused by lack of iodine in the diet

Grain (gr) A unit of weight based on the weight of a grain of wheat 1 grain weighs 65 mg

Gram (gm) A metric unit of weight There are about 28 grams in an ounce There are 1000 gm in 1 kilogram

Groin The front part of the body where the legs join The genital area

Gut Intestines

Gut thread or gut suture material A special thread for sewing or stitching tears from childbirth The gut thread is slowly absorbed (disappears) so that the stitches do not need to be taken out

H

Hare lip A split in the upper lip, going from the mouth up to the nose (like a hare, or rabbit) Some babies are born with a hare lip

Health worker *A person who takes part in* making his community a healthier place to live

Heartburn A burning feeling in the lower chest or upper part of the stomach

Hemorrhage Severe or dangerous bleeding

Hemorrhoids (piles) Small, painful bumps or lumps at the edge of the anus or inside it These are actually swollen or varicose veins

Herb A plant, especially one valued for its medicinal or healing qualities

Hereditary Passed on from parent to child

Hernia (rupture) An opening or tear in the muscles covering the belly that allows a loop of the gut to push through and form a ball or lump under the skin

Hex A magic spell or jinx said to be caused by a witch

History (medical history) What you can learn through asking questions about a person's sickness—how it began, when it gets better or worse, what seems to help, whether others in the family or village have it, etc

Hives Hard, thick, raised spots on the skin that itch severely They may come and go all at once or move from one place to another A form of allergic reaction

Hormones Chemicals made in parts of the body to do a special job For example, estrogen and progesterone are hormones that regulate a woman's period and chance of pregnancy

Hygiene Actions or practices of personal cleanliness that lead to good health

***Hypertension** High blood pressure

Hyperventilation Very rapid, deep breathing in a person who is frightened

***Hypochondria** Extreme worry or concern over an imagined sickness

Hysteria (1) In common language, a condition of great nervousness, fear, and emotional distress (2) In medical terms, signs of sickness caused by fear or the power of belief

I

Immunizations (vaccinations) Medicines that give protection against specific diseases, for

example diphtheria, whooping cough, tetanus, polio, tuberculosis, measles, and smallpox.

Infection A sickness caused by bacteria or other germs Infections may affect part of the body only (such as an infected finger) or all of it (such as measles)

Infectious disease A disease that is easily spread or communicated (passed from one person to another), contagious

Inflammation An area that is red, hot, and painful, often because of infection

Insecticide A poison that kills insects DDT and lindane are insecticides

***Insomnia** A condition in which a person is not able to sleep, even though he wants and needs to

Insulin A substance (enzyme) produced by the pancreas, which controls the amount of sugar in the blood Injections of insulin are sometimes needed by persons with diabetes

Intestinal parasites Worms and tiny animals that get in people's intestines and cause diseases

Intestines The guts or tube like part of the food canal that carries food and finally waste from the stomach to the anus

Intramuscular (IM) injection An injection put into a muscle, usually of the arm or the buttock—different from an intravenous (IV) injection, put directly into a vein

Intussusception The slipping of one portion of the gut into one nearby, usually causing a dangerous obstruction or blocking of the gut

Iris The colored or dark part of the eye around the pupil

J

Jaundice A yellow color of the eyes and skin It is a sign of disease in the liver, gallbladder pancreas, or blood

K

***Keratomalacia** A dullness and softening of the eye, ending in blindness It is caused by a lack of vitamin A

Kidneys Large, bean shaped organs in the lower back that filter waste from the blood, forming urine

Kidney stones Small stones that form in the kidneys and pass down to the urinary tube They can cause a sharp pain in the lower back, side, urinary tube, or lower belly In the bladder they may block the urinary tube and make urination painful or impossible

Kilogram (kg) One thousand grams A 'kilo' is equal to a little over 2 pounds

Kwashiorkor (wet malnutrition) Severe malnutrition caused by not eating enough protein A child with kwashiorkor has swollen feet, hands, and face, and peeling sores

L

Labor The sudden tightening or contractions of the womb that mean the baby will soon be born

Larva (larvae) The young worm like form that comes from the egg of many insects or parasites It changes form when it becomes an adult.

Lathyrism This disease is caused by eating large amounts of the pulse called Kesari dal It is grown in parts of Madhya Pradesh Uttar Pradesh and Bihar and often given as wages

Latrine An outhouse, privy, a hole or pit in the ground to use as a toilet

Laxative A medicine used for constipation that makes stools softer and more frequent

Ligaments Tough cords in a persons's joints that help hold them in place

***Lingual** Of or relating to the tongue

Liter (l) A metric measure equal to about one quart A liter of water weighs one kilogram

Liver A large organ under the lower right ribs that helps clean the blood and get rid of poisons

Loss of consciousness The condition of a sick or injured person who seems to be asleep and cannot be wakened Unconsciousness

***Lubricant** An oil or cream used to make surfaces slippery

Lymph nodes Small lumps under the skin in different parts of the body that are traps for germs They become painful and swollen when they get infected In tuberculosis and cancer they are often swollen but not painful

Lyophilized Powdered a way of preparing injectable medicine so that it does not have to be kept cold

M

Malnutrition Health problems caused by not eating enough of the foods that the body needs

Marasmus (dry malnutrition) A condition caused by not eating enough Starvation The

person is very thin and underweight, often with a pot belly

Mask of pregnancy Dark, olive colored areas on face, breasts, or middle of the belly that are normal in a pregnant woman

Mastitis (breast abscess) An infection of the breast, usually in the first weeks or months of nursing a baby. It causes part of the breast to become hot, red, and swollen

Membrane A thin, soft sheet or layer that lines or protects some part of an animal or plant

Menopause (climacteric) The time when a woman naturally stops having monthly bleeding, usually between the ages of 40 and 50

Menstrual period, menstruation Monthly bleeding in women

Mental Of or relating to the mind (thinking brain)

Micro organism A tiny plant or animal so small it can only be seen with the aid of a microscope

Microscope An instrument with lenses that make very tiny objects look larger

Microscopic Something so small that it can only be seen with a microscope

Migraine A severe, throbbing headache, sometimes on one side of the head only. It often causes vomiting

Milligram (mg) One thousandth of a gram

Milliliter (ml) One thousandth of a liter

Minerals Simple metals or other things the body needs, such as iron, calcium, and iodine

Miscarriage (spontaneous abortion) The death of the developing baby or fetus in the womb, sometimes followed by heavy bleeding with blood clots

Mongolism (Down's syndrome) A disease in which a child is born mentally slow with slanted eyes, a round dull face, and wide hands with short fingers

Morning sickness Nausea and vomiting that occur especially in the morning in the early months of pregnancy.

Mouth to mouth breathing Artificial respiration. A method of helping a person who has stopped breathing to start breathing again

Mucus A thick, slippery liquid that moistens and protects the linings of the nose, throat, stomach, guts, and vagina

N

Narrow-spectrum antibiotic A medicine that works against a limited number of different kinds of bacteria

***Nasal** Of or relating to the nose

Nausea Stomach distress or upset, feeling like you need to vomit

Navel Belly button, umbilicus, the place in the middle of the belly where the umbilical cord was attached

Nerves Thin threads or strings that run from the brain to every part of the body and carry messages for feeling and movement

Nirodh See condoms

Non infectious disease A disease that does not spread from person to person

Normal Usual, natural, or average. Something that is normal has nothing wrong with it

Nutritious Nourishing. Nutritious foods are those that have the things the body needs to grow, be healthy, and fight off disease

O

Obstruction A condition of being blocked or clogged. An obstructed gut is a medical emergency

Ointment A salve or lotion to use on the skin

***Ophthalmic** Of the eyes

***Oral** By mouth. An oral medicine is one taken by mouth

Organ A part of the body that is more or less complete in itself and does a specific job. For example, the lungs are organs for breathing

Organisms Living things (animals or plants)

***Otic** Having to do with the ears

Ounce A measure of weight equal to about 28 grams. There are 16 ounces in one pound

Ovaries Small sacs in a woman's belly next to her womb. They produce the eggs that join with a man's sperm to make a baby.

Oxytocics Dangerous medicines that cause the womb and blood vessels in it to contract. They should only be used to control a mother's heavy bleeding after her child is born

P

Palate The roof or top part of the mouth

Pancreas An organ below the stomach, on the left side, that produces insulin

Pannus Tiny blood vessels that appear in the top edge of the cornea in certain eye diseases like trachoma

Paralysis Loss of the ability to move part or all of the body

Parasites Worms and tiny animals that live in or on another animal or person and cause harm Fleas, intestinal worms, and amebas are parasites

***Parenteral** Not by mouth but by injection

Pasteurization The process of heating milk or other liquids to a certain temperature (60°C) for about 30 minutes in order to kill harmful bacteria

Pelvis Hip bones

Peritoneum The thin lining between the guts and body wall The bag that holds the guts

Peritonitis A very dangerous inflammation of the peritoneum The belly gets hard like a board and the person is in great pain, especially when he tries to lie with his legs straight

Pernicious anemia A rare kind of anemia caused by a lack of vitamin B_{12} Pernicious means harmful

Petroleum jelly (petrolatum, *Vaseline*) A grease like jelly used in preparing skin ointments

Pharmacy A store that sells medicines and health care supplies

Phlegm Mucus with pus that forms in abnormal amounts in the lungs and must be coughed out

Piles See **Hemorrhoids.**

Pimples See **Acne**

Pitham A substance which is believed to be found in certain foods and cause many diseases The belief prevails in the Southern part of India

Placenta (afterbirth) The dark and spongy lining inside the womb where the fetus joins the mother's body The placenta normally comes out 15 minutes to half an hour after the baby is born

Placenta previa A condition in which the placenta is too low in the womb and blocks the mouth of the womb The risk of dangerous bleeding is high Women who have bleeding late in pregnancy—a possible sign of placenta previa —should go to a hospital at once

Plantain A kind of banana with a lot of starch and fiber It is often cooked and eaten when green

Pollen The fine dust made in the flower of a seed plant People who are **allergic** to pollen often have hay fever at times of the year when plants put a lot of this dust into the air

Postpartum After childbirth.

Postpartum hemorrhaging Heavy bleeding of the mother following childbirth

Power of suggestion or power of belief The influence of belief or strong ideas For example, sick people can feel better because they have faith in a remedy, even if the remedy does not have any medical effect

Precaution Care taken in advance to prevent harm or prepare for emergencies before they happen

Pregnancy The period (normally 9 months) when a woman carries a child inside her

Premature baby A baby born before the full 9 months of pregnancy and weighing less than 2 kilos

Presentation of an arm An abnormal position of delivery in which the baby's hand comes out first during the birth This is an emergency needing a doctor

Prevention Action taken to stop sickness before it starts

Prolapse The slipping or falling down of a part of the body from its normal position, for example a prolapsed rectum or womb

Prophylactic The word prophylactic means preventive, but condoms are sometimes called prophylactics

Prostate gland A firm, muscular gland at the base of the man's urinary tube, or urethra Often in older men the prostate becomes enlarged, causing difficulty in urinating

Protective foods Foods that are rich in vitamins and minerals They help build healthy bodies and make people more able to resist or fight diseases

Proteins Body building foods necessary for proper growth and strength

Pterygium A fleshy growth that slowly extends from the edge of the eye onto the cornea

Pulse The number of times a person's heart beats in one minute

Pupil The round opening or black center in the iris of the eye It gets smaller in bright light and larger in the dark

Purge A very strong laxative that causes diarrhea

R

Rate The number of times something happens in a given amount of time

Rebound pain [illegible] The pain [illegible]

Rectum [illegible]

Reflex [illegible] without a person trying to [illegible]

Rehydration Drink [illegible] water [illegible]

Resistance The ability of something to defend itself against something that would normally harm or kill it. Many bacteria become resistant to the effects of certain antibiotics.

Resource What is needed or available for doing or making something. People, land, animals, money, skills, and plants are resources that can be used for improving health.

Respiration Breathing. The **respiratory system** includes the bronchi, lungs, and other organs used in breathing.

Respiration rate The number of times a person breathes in one minute.

Retardation Abnormal slowness of thought, action, or mental and emotional growth.

Rhinitis An inflammation of the lining of the nose, often caused by allergies. Hay fever.

Risk The possibility of injury, loss, or harm. Danger.

Road to Health Chart A monthly record of a child's weight that shows whether the child is gaining weight normally.

Rotation of crops To grow different crops one after the other in the same field, so that the soil becomes richer rather than weaker from year to year.

Rupture See **Hernia**.

S

Sanitation Public cleanliness involving community efforts in disease prevention, promoting hygiene, and keeping public places free of [illegible]

Scrotum The bag between a man's legs that holds his testicles or balls.

Septicemia An infection of the blood—sometimes called blood poisoning.

Shock A [illegible] condition with severe [illegible] and [illegible] by dehydration [illegible]

Side effects Problems caused by using a medicine.

Signs The things or conditions one looks for when examining a sick person, to find out what sickness he has. In this book symptoms or the problems a person feels are included with the [illegible]

Sinus trouble (sinusitis) Sinuses are hollows in the bone that open into the nose. Sinusitis is inflammation causing pain above and below the eyes.

Soft drinks Fizzy, carbonated drinks like Coca Cola.

Soft spot See **Fontanel**.

Spasm A sudden muscle contraction that a person cannot control. Spasms of the gut produce cramps, or colic. Spasms of the bronchi occur in asthma. Spasms of the jaw and other muscles occur in tetanus.

Spastic Having chronic abnormal muscle contraction due to brain damage. The legs of spastic children often cross like scissors.

Spleen An organ normally the size of a fist under the lower edge of the ribs on the left side. Its job is to help make and filter the blood.

Spontaneous abortion See **Miscarriage**.

Sprain (strain) Bruising, stretching, or tearing of ligaments or tendons in a twisted joint. A sprain is worse than a strain.

Sputum Mucus and pus (phlegm) coughed up from the lungs and bronchi of a sick person.

Starches Energy foods like maize, rice, wheat, cassava, potatoes, and squash.

Sterile (1) Completely clean and free from living micro-organisms. Things are usually sterilized by boiling or heating.
(2) Sterile also means permanently unable to have children.

Sterilization (1) To sterilize instruments, bottles and other things by boiling or heating in an oven. (2) Also a permanent way of making a man or a woman unable to reproduce (have children).

Stethoscope An instrument used to listen to sounds in the body, such as the heartbeat.

Stomach The sac-like organ in the belly where food is digested. In common language, stomach is often used to mean the whole belly or abdomen.

Stools See **Feces**.

Stroke (apoplexy, cerebro-vascular accident) A sudden loss of consciousness, feeling, or ability to move [illegible]

inside the brain Also see heat stroke (p 81)

Sty A red, swollen lump on the eyelid, usually near the edge, caused by infection

Sucrose The common sugar that comes from sugarcane or sugar beets It is more complex and more difficult for the body to use than glucose

Sugars Sweet foods like honey, sugar or fruit that give energy

Suppository A bullet shaped tablet of medicine to put up the anus or vagina

***Suppressant** A medicine that helps to check, hold back, or stop something, such as a medicine to stop coughing (cough suppressant)

Suspension A powder mixed in a liquid

Suture A stitch made with needle and thread to sew up an opening or wound

Symptoms The feelings or conditions a person reports about his sickness In this book symptoms are included with signs

T

Tablespoon A measuring spoon that holds 3 teaspoons or 15 ml

Taboo Something that is avoided, banned, or not allowed because of a cultural belief

Tapioca A starchy root grown in the tropics

Teaspoon A measuring spoon that holds 5 ml Three teaspoons equal 1 tablespoon

Temperature The degree of heat of a person's body

Tendons Tough cords that join muscles to bones (distinct from ligaments, which join bones with bones at joints)

***Thalassemia** A form of hereditary anemia seen only in certain countries A child may become very anemic by age 2 with a large liver and spleen

Thermometer An instrument used to measure how hot a person's body temperature is

Tick A crawling insect-like animal that buries its head under the skin and sucks blood

***Topical** For the skin A topical medicine is to be put on the skin

Toxemia A sickness resulting from certain poisons in the body for example, toxemia of pregnancy and urine toxemia (or uremia)

Toxic Poisonous

Tract A system of body organs and parts that work together to do a special job for example the urinary tract cleans the blood and gets rid of urine

Traditions Practices beliefs or customs handed down from one generation to another by example or word of mouth

Transmit To pass on, transfer, or allow to spread from one person to another

Tropical Having to do with the tropics or hot regions of the world

Tumor An abnormal mass of tissue without inflammation Some tumors are due to cancer

U

Ulcer A break in the skin or mucus membrane a chronic open sore of the skin the surface of the eye, the stomach or gut

Umbilical cord The cord that connects a baby from its navel to the placenta on the inside of its mother's womb

Umbilical hernia A large, outward bulge of the navel—caused by a loop of intestine that has pushed through the sac holding the guts

Umbilicus See **Navel**

Unconsciousness See **Loss of consciousness**

Under-Fives Program A plan that helps mothers learn about their children's health needs make regular visits to a clinic for check ups and keep a record (Road to Health Chart) of the growth of their children under five years old

Urethra Urinary tube or canal The tube that runs from the bladder to the hole a person urinates from

Urinary tract The system of organs concerned with the formation and getting rid of urine—such as kidneys bladder and urinary tube (urethra)

Urine Liquid waste from the body, piss pee

Uterus Womb

V

Vaccinations See **Immunizations**

Vagina The tube or canal that goes from the opening of a woman's sex organs to the entrance of her womb

Vaginal Of or relating to the vagina

Varicose veins Abnormally swollen veins, often lumpy and winding, usually on the legs of older

[illegible]

Vaseline See **Petroleum jelly**

Venereal disease A disease spread by sexual [illegible]

Vessels Tubes. Blood vessels are the veins and arteries that carry the blood through the body.

Virus [illegible] smaller than bacteria which cause some infectious [illegible]

Vitamins Protective foods that our bodies need to work properly.

Vomiting [illegible]

W

Welts [illegible]

Womb [illegible] The uterus.

X

Xerosis or xerophthalmia Abnormal dryness of the eye due to lack of vitamin A.

ADDRESSES FOR TEACHING MATERIALS

AFPRO 25/1A Institutional Area Pankha Road "D" Block Janakpuri New Delhi-110058	Consultation on request
Business Manager Farm Information Unit Directorate of Extension Ministry of Agriculture Shastri Bhavan, New Delhi-1 or District Officer	Agriculture and food Production
CARAVAS 15 Civil Lines Jabalpur M P	Filmstrips and Films
CARE Tamil Nadu DPI Compound College Road Madras-600 006	Visual Aids on Nutrition
Catholic Hospital Association of India 157/6 Staff Road Secunderabad-500003 Andhra Pradesh	
CHEB Temple Lane Kotla Road New Delhi or nearest State Health Education Bureau	Films, Pamphlets and Flashcards

Christian Medical College
& Hospital
Vellore 632 004
South India

Posters, Flaschards,
Flannelgraphs in English
and local languages

Christian Medical Association
of India
Christian Council Lodge
Nagpur-440 001

CONCERN (Saidpur Office)
House 283, Road 26
Dhanmandi, Dacca-5
Bangladesh

Bengali Visual Aids

Director General of Health Services
Nirman Bgavan
New Delhi-110 001

District Medica' Officer

Pamphlets and posters
in regional languages

Emmanuel Hospital Association
808/92 Nehru Place
New Delhi-110 019

Gandhigram Institute of Rural Health
& Family Planning
P O Ambathurai R S
Dt Madurai-624 309
Tamil Nadu

Gandhi Memorial Leprosy Foundation
Hind Nagar
Wardha-442 103

Hind Kusht Nivaran Sangh
1 Red Cross Road
New Delhi-110 001

Indian Academy of Paediatrics
Kailash Darshan Kennedy Bridge
Bombay-400 007

Indian Council of Medical Research
Ansari Nagar
New Delhi-110 016

Indian Red Cross
1 Red Cross Road
New Delhi-110 001

Posters, Flaschcards, Bookets
Contact State Branch for
regional languages

I T D G
Parnell House, Wilton Road
London SW1, England

Booklets on simple
technology Will send advice
on technical problems

[illegible] P B 24 [illegible] [illegible]	[illegible]
Literacy House P. O. Alam Bagh Lucknow 226 005	
Medico Friends Circle 21 Nirman Society Vadodra 390 005	Their Bulletin discusses medical issues
Medico Friend Circle 1877 Joshi Galli Nipani-591 237 Karnataka	Tablets at low cost to VHA members
National Environmental Engineering Research Institute Nehru Marg Nagpur-440 020	
National Institute of Nutrition Hyderabad-500 007	
Post-Graduate Institute of Medical Research Chandigarh (Deptt of Child Health)	
Shanta Bhavan Community Health Programme Box 252 Kathmandu, Nepal	Slides, flip charts available in India through VHAI
S L R Leprosaruim Karigiri Tamil Nadu-632 106	Leprosy Pamphlets
SKIP 72 Brigade Road Bangalore-560025	Provides information on trade training for Hospital staff
State Health Education Bureau	For free pamphlets and posters in regional languages
State Voluntary Health Association	State VHA promotional secretary can provide information on regional resources. Twelve states have such personnel
Tata McGraw Hill International Books Co 212/4 Asaf Ali Road New Delhi 110 001	Management Books

Teaching Aids at Low Cost (TALC) Institute of child Health 30 Guilford Street London WC 1 N 1 EH	Slide sets, weight charts aids to weight charts (flannelgraphs etc) Free booklets in English Most TALC materials available from VHAI India
The Leprosy Mission C/o Philadelphia Leprosy Hospital Salur A P 532 591	
Tuberculosis Association of India 3 Red Cross Road New Delhi 110 001 & State Branches	
VHAI 40, Institutional Area South of IIT New Delhi-110016 India	Flannelgraphs books Flip charts etc List available Material in English & local languages Management training (Hospital)
VITA 3706 Rhode Island Avenue Mt Rainier Maryland 20822 USA	
World Health Organisation Indraprastha Estate Ring Road New Delhi-110 002	
World Neighbours 5116 North Portland Avenue Oklahoma City Oklahoma 73112	Filmstrips manual flip charts in English Hindi Available in India thourgh VHAI


TDK
SUPER AVILYN
T-30
DIRECTORY OF VOLUNTARY HEALTH CARE INSTITUTIONS AND PROGRAMMES OF INDIA
MANUAL FOR CHILD NUTRITION IN RURAL INDIA
THE COMPLETE FAMILY MEDICINE BOOK
National
180
Primary Child Care
an accounting guide
THE FEEDING AND CARE OF INFANTS AND YOUNG CHILDREN
Practising Health for All
BETTER EYE CARE
MANAGEMENT PROCESS IN HEALTH CARE
UNDER THE LENS
Self Appraisal and Goal-setting Guide for Hospital Departments
Helping Health Workers Learn
SOCIAL ACTIVISTS AND PEOPLES MOVEMENTS
A TASTE OF TEARS

INDEX

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W

DOSAGE BLANKS—for giving medicines to those who cannot read (see p 64)

cut out and use as needed

Name

Medicine

For

Dosage

Name.

Medicine

For

Dosage

Name

Medicine

For

Dosage.

Name

Medicine

For

Dosage

Name

Medicine

For

Dosage

Name

Medicine

For

Dosage

Name

Medicine:

For

Dosage

Name

Medicine

For

Dosage

PATIENT REPORT

TO USE WHEN SENDING FOR MEDICAL HELP.

Name of the sick person ______________________________ Age: ____
Male____ Female____ Where is he (she)? ______________________________
What is the main sickness or problem right now? ______________________________
____
____
____
When did it begin? ______________________________
How did it begin? ______________________________
Has the person had the same problem before? ______ When? ______________
Is there fever? ______ How high? ______° When and for how long? ______________
Pain? ______ Where? ______________ What kind? ______________

What is wrong or different from normal in any of the following?

Skin: ______________________ **Ears:** ______________________
Eyes: ______________________ **Mouth and throat:** ______________________
Genitals: ______________________________
Urine: Much or little? ________ Color? ________ Trouble urinating? ________
Describe ______________ Times in 24 hours ______ Times at night ______
Stools: Color? ________ Blood or mucus? ________ Diarrhea? ________
Number of times a day ______ Cramps? ______ Dehydration? ______ Mild or severe? ________ Worms? ________ What kind? ______________
Breathing: Breaths per minute ______ Deep, shallow, or normal? ______________
Difficulty breathing (describe) ______________ Cough (describe) ______________
______________ Wheezing? ________ Mucus? ________ With blood? ________
Does the person have any of the SIGNS OF DANGEROUS ILLNESS listed on page 42? ______ Which? (give details) ______________________________
____
Other signs: ______________________________
Is the person taking medicine? ______ What? ______________________________
Has the person ever used medicine that has caused hives (or bumps) with itching, or other allergic reactions? ______ What? ______________________________
The state of the sick person is Not very serious. ________ Serious ________
Very serious. ________

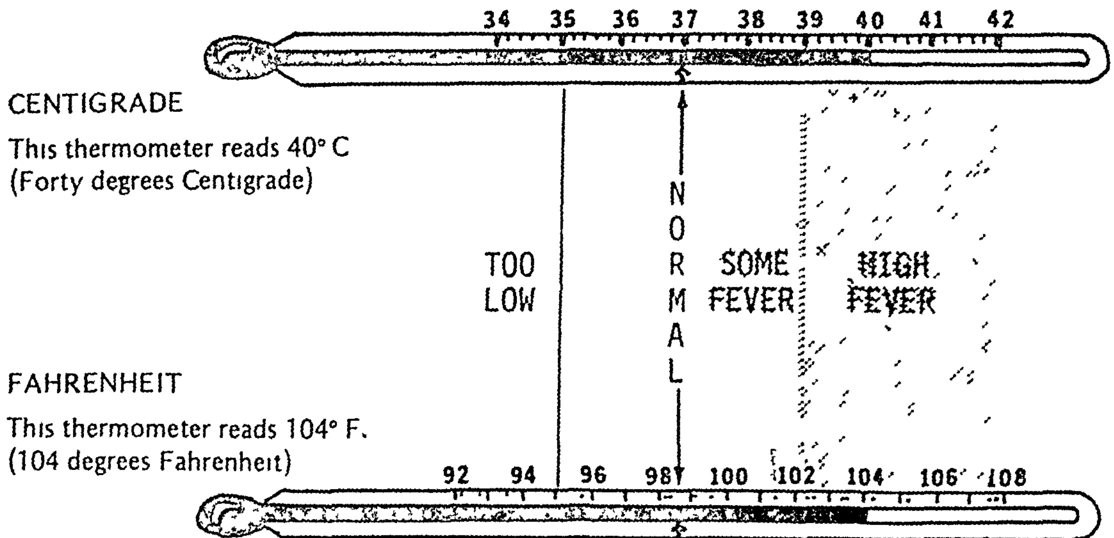
On the back of this form write any other information you think may be important.

INFORMATION ON VITAL SIGNS

TEMPERATURE

There are two kinds of thermometer scales Centigrade (C) and Fahrenheit (F.) Either can be used to measure a persons's temperature

Here is how they compare



PULSE OR HEARTBEAT

For a person at rest		
	ADULTS	60-80 beats per minute is normal
	CHILDREN	80-100
	BABIES	100-140

For each degree Centigrade (°C) of fever, the heartbeat usually increases about 20 beats per minute

---

RESPIRATION

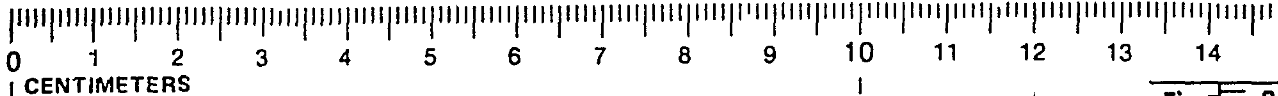
For a person at rest		
	ADULTS AND LARGE CHILDREN	12-20 breaths per minute is normal
	CHILDREN	up to 30 breaths per minute is normal
	BABIES	up to 40 breaths per minute is normal

More than 40 shallow breaths a minute usually means pneumonia (see p. 209)

BLOOD PRESSURE (This is included for health workers who have the equipment to measure blood pressure)

For a person at rest } 120/80 is normal, but this varies a lot

If the second reading, when the sound disappears, is over 100, this is a danger sign of high blood pressure (see p 147)



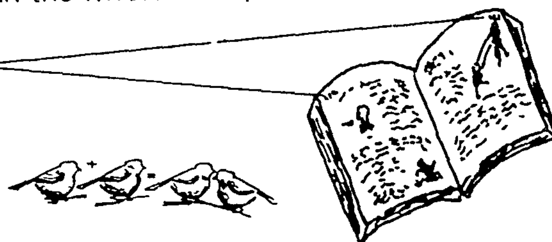
ABBREVIATIONS (A shorter way of writing a longer word, a few letters mean the whole word)

p = page in the book

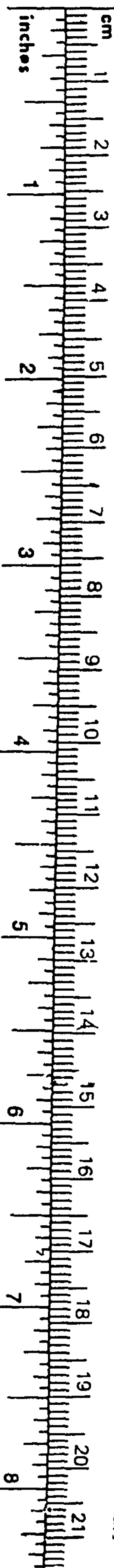
+ means **and** or **plus**

= means **the same as**, or **is equal to**

% = percent





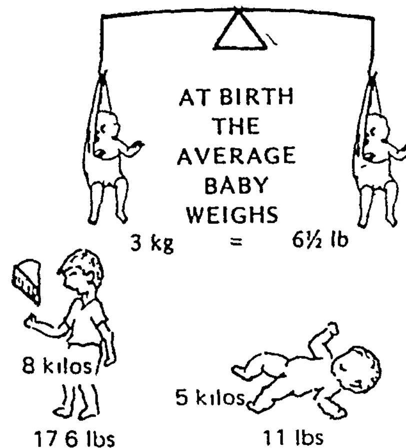


WEIGHT (how heavy something is)

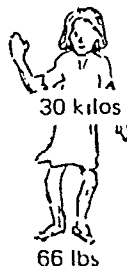
1 pound = 454 grams (gm)

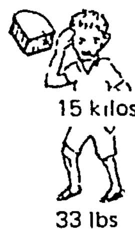
1000 grams = 1 kilogram (kilo, kg)

1 gram = 1000 mg









8 kilos
17 6 lbs

5 kilos
11 lbs

VOLUME (how much space or bulk something has, for measuring liquids)

1000 milliliters (ml) = 1 liter

1 milliliter = 1 cubic centimeter (cc)

3 teaspoons (tsp) = 1 Tablespoon (Tbs)

1 teaspoon = 5 milliliters

1 Tablespoon = 15 milliliters

30 milliliters = about 1 ounce (of water)

